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ABSTRACT

The resource guide helps formulate diagnostic profiles for children with specific learning disabilities, analyzes subsets of well-known batteries, and classifies materials to match areas of strength and weakness in learning. An adaptation of the Osgood model is used to identify and order the component abilities in learning. These component abilities are related to the curriculum areas of language arts and mathematics. In the Perceptual-Motor Chart, constituting Part 1, there are four columns: the first identifies and orders the component abilities in the learning process, the second suggests particular tests or subtests to indicate the strength or weakness of that particular function, the third suggests remedial instructional materials, and the fourth column is left vacant for teacher's evaluation of the success of the diagnostic prescription. Curriculum areas of reading, spelling, handwriting, and mathematics are represented in the chart. Part 2 presents bibliographic, price, content, and purpose information for the alphabetically listed tests and remedial instructional materials. Part 3, in addition to giving bibliographic information on available mathematics materials, contains analyses of mathematics skill areas and concepts to promote better understanding of the rationale of the instructional materials. (KW)

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RESOURCE AID

OF

SELECTED MATERIALS FOR

REMEDIATION OF LEARNING DISORDERS

New England Materials for Instruction Center (NEMIC)
Boston University School of Education
704 Commonwealth Avenue
Boston, Massachusetts 02215

Phone: (617) 353-3195

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INTRODUCTION

Children with specific learning disabilities are identified by Federal Law (P. L. 91-230, Title VI-A, April 13, 1970) as exhibiting a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language. This disorder may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, and/or do mathematical calculations. Such a disorder includes the labels perceptual-motor handicap, minimal brain dysfunction, dyslexia, developmental aphasia, etc. It does not include learning problems which are primarily the result of visual, auditory or motor handicaps, of mental retardation, of primary emotional disturbance or of environmental deprivation. A specific learning disability is suspected of being a developmental or genetic disorder, and is not necessarily due to brain injury.

Teachers assigned to help children with specific learning disabilities come to NEMIC with questions, obviously in need of advice and support. They ask

1) How can the learning process be classified into component abilities?
2) What tests measure these component abilities for a differential diagnosis?
3) What materials are available to remediate deficit abilities?
4) How can the success of any given material be evaluated?

The NEMIC staff has compiled this Learning Disability Resource Aid to

1) Formulate a diagnostic profile for a child with a specific learning disability
2) Analyze the subtests of well-known batteries such as the ITPA, Frostig, PPMS, Detroit and others
3) Classify materials to match areas of strengths and weaknesses in learning
4) Generate research on both the theoretical and practical levels

INTRODUCTION (Cont'd)

There are numerous theoretical models which could have been chosen to identify and order the component abilities in learning. We have chosen an adaptation of the Osgood model because it best answers the present need of teachers. Because so many of the requests made to us refer to "visual-motor", "auditory", or other perceptual training programs, we have classified learning process into component abilities and related them to the curriculum areas of language arts and mathematics. The NEMIC Research staff will continue to investigate the following points:

1) Is it possible to isolate component abilities in the learning process for a differential diagnosis as suggested by Johnson and Myklebust (1967)?
2) Are the responses on the tests identifiable with the tasks that elicit them? Luria (1967) has shown that symptoms which appear to be identical turn out to be caused by different factors and that different higher mental functions have underlying factors in common.
3) Has perceptual-motor training based upon a differential diagnosis been of benefit to some children? Too often significant results are due to statistical artifacts and to assessment of before and after results with tests similar to the training procedures (Mann, 1970).
4) Is the theoretical assumption underlying perceptual-motor training correct? If perception and cognition prove to be relatively independent processes, will many of the published materials described in this Manual place undue emphasis upon irrelevant knowledge and thus retard cognition? Are the benefits of such programs superficial, given the expense of time and effort, if there is little direct relation between perceptual-motor skills and higher academic learning?

The Learning Disability Resource Aid has been organized in three parts.

In Part I, there are four columns. The first column identifies and orders the component abilities in the learning process. Column two suggests subtests of well known batteries to indicate whether a particular function is weak or strong. Column three suggests instructional materials that may be useful in remediation. Column four is left vacant for the teacher's evaluation of the

INTRODUCTION (Cont'd)

success of the diagnostic prescription. Hopefully, these evaluations will be shared with NEMIC. Part I is broken into curriculum areas that include reading, spelling, handwriting, and mathematics.

Part II identifies tests and materials, borrowing from Dr. Don Glen Sandy's Speech and Language Diagnostic Resource Aid (NEMIC, Spring, 1971) and the University of Texas Instructional Materials and Resource Materials Available to Teachers of Exceptional Children and Youth (SEIMIC, July, 1969). Arranged in alphabetical order, the descriptions include bibliographical, price, and content information, as well as brief statements of purpose.

Part III contains a chapter on the teaching of mathematics as well as bibliographical information on available materials. The chapter on Mathematics is presented differently in this Resource Aid. Many of the tutors who came to us reflected the need for a better understanding of mathematical concepts. Mathematics skill areas are analyzed and explained so that the rationale of instructional materials is better understood.

It is recognized that the Mathematics Section does not include a full inventory of materials. However, enough examples are given that clearly identify solutions to given problems.

The Learning Disability Resource Aid originated with a Summer Institute in 1969 led by Eleanor Semmel. From the original collections, materials have been added or deleted, and in-house theoretical discussion has substantially

INTRODUCTION (Cont'd)

sharpened the concept of learning components.

Harold Ruvin, Director

NEMIC Staff

Mary Bottomly	Marsha Roit
Ardelle Brebner	Don G. Sandy
Christina Casten	Diane Saunders
Stefan Harasymiw	Bickley Simpson
Joan Needleman	Sandra Weintraub

Component Ability	Test
1. Attending: responding to stimuli, i.e.	
KINESTHETIC-TACTILE	
adequate muscle strength, tone;	PPMS, "Kraus Weber"
finger localization; two point sensation; tracing shapes on skin.	
motor speed & precision; touching finger/thumb, reproduction finger positions, reciprocal coordination fist/edge/palm.	Detroit #5
hand-eye dominance;	
dynamic & static balance;	PPMS; Oseretsky-Doll; Kohen-Raz
VISUAL	
acuity; far point, near point, color.	Keystone; Titmus
awareness; eye movements following a moving target (ocular-motor pursuits) without additional and/or unnecessary movements (overflow).	PPMS
constancy; recognizing an object in a variety of positions, sizes, etc.	ITPA #2; Frostig #3
figure-ground; recognizing an object in a confusing background.	Frostig #2
closure; recognizing an object from incomplete drawing.	ITPA #8
AUDITORY	
acuity; recognition of sound or no sound.	Audiometry
awareness that sound has started, stopped, changed;	
localization of sound source;	
constancy; recognition of sound despite pitch, duration, intensity, etc.	

Material

Motor & Hand-Eye Coordination

Pathway

Frostig

Sound/Order/Sense

Sound/Order/Sense, Sounds I Can Hear

Let's Listen, DLM Familiar Sounds,
Sights and Sounds, Sight and Sound
Discovery Trips

Component Ability	Test
figure-ground; recognition of relevant sound with background of irrelevant noise.	
closure; recognition of word from incomplete sound pattern.	ITPA #11
2. Imitating: repeating a stimulus with object present, i.e.	
KINESTHETIC-TACTILE	
movement copying; pointing to body parts, crossing midline of body, simultaneous use of both sides of body, use of one side of body with no additional and/or unnecessary movements (overflow)	PPMS Cohen et al.
gait; cross pattern creeping, walking, running, skipping, hopping, obstacle course.	MSSST, PPMS
use of same arm/leg consistently in throwing, kicking activities	Harris Test of Lateral Dominance
fine motor control; fastening, lacing, tying, scissor use, pegboard skills; tracing, dot-to-dot, copying geometric shapes.	Frostig #1 PPMS Bender Gestalt Beery-Buktenica Visual Motor Integration
VISUAL	
matching of simple pictures	MSSST
AUDITORY	
articulation; sound-making in initial, middle, final positions	Goldman-Fristoe
repetition of word, sentence	MSSST; MacDonald; Menyuk

Material

Captain Good Speech and Mr. Mumbles

Readiness for Learning

Perceptual Training Activities Handbook

Perceptual Training Activities Handbook
Erie, Play Tiles

Fairbanks-Robinson

Frostig

Let's Play Hide and Seek,
Auditory Discrimination - Beginning
Sounds, Smile, Training in Some Pre-
requisites for Beginning Reading

Component Ability	Test
3. Differentiating: discriminating between two or more stimuli, i.e.	
KINESTHETIC-TACTILE	
word concepts; pointing to body parts, up/down, right/left, back/front when named.	Boehm Test of Basic Concepts
hand patterns	MSSST
organization of forms in space; copying two or more designs and arranging designs on paper.	Bender Gestalt
VISUAL	
matching pictures with minimal differing features	MSSST; Frostig #4
organization of forms in space	MSSST
directionality	Money Road Map
AUDITORY	
similarities of non-verbal sounds (stress, rhythm, melody)	
similarities of sharply differing speech sounds	
similarities of minimal differing speech sounds	Wepman Goldman-Fristoe
4. Labeling: relating ideas which are received through one or more modes and coded in any one or more modes, i.e.,	
KINESTHETIC-TACTILE	
giving gesture in response to picture	ITPA #6
stereognosis: with eyes closed, naming object placed in hand; drawing shape that hand has traced on form board	

Material

Our Book, Perceptual Training Activities Handbook, Try

Detect, Visual Discrimination Skills, Try

Dubnoff

DLM Buzzer Board,
Montessori Sound Boxes,
True Tone Bells

Listening for Speech Sounds, Listen-Hear Books, Auditory Discrimination - Rhyming Words

Auditory Discrimination Game

Puppet Playmates

Component Ability	Test
VISUAL-AUDITORY	
seeing picture and giving name	
hearing name and pointing to picture	PPVT
hearing description and naming object	
5. Recalling: remembering and recognizing stimuli (short term and long term memory), i.e.	
KINESTHETIC-TACTILE	
remembering movement	
VISUAL	
remembering designs, pictures	MSSST; Detroit #12
AUDITORY	
remembering single events such as day of week, birthday, address	
6. Sequencing: expressing information in a serial progression	
KINESTHETIC-TACTILE	
miming a story	
rhythmic patterns with fine motor skill	
VISUAL	
serial ordering of pictures, designs	ITPA #10; Detroit #9, #10
block tapping	MSSST
picture arrangement	WISC

Material

Follow Through With Sounds, A Language Rehabilitation Program, Language Lotto, Language Development Experiences for Young Children, Judy's Friends, Sounds and Patterns of Language, Autosort Language Arts, Cheves

Fitzhugh Plus

Cheves

Component Ability	Test
AUDITORY	
related sounds, words such as days of week, months	MSSST
unrelated words, digits	ITPA #9; Detroit #6
sentence completion	MSSST; ITPA #7
complicated directions	MSSST; Detroit #7, #18
story telling	MSSST

7. Categorizing and Analyzing: combining component parts into whole and separating wholes into component parts, i. e.,

VISUAL	
design analysis	Witkin; WISC
disarranged pictures	WISC; Detroit #17
classifying pictures, objects	CMMS; Detroit #19; ITPA #5
pictorial opposites, absurdities	WISC; Detroit #1, #3
AUDITORY	
word analysis; sound blending	ITPA #12; Roswell-Chall
sentence construction with isolated words	
similarities and opposites	WISC; Detroit #4
verbal absurdities	Detroit #2
multiple meanings	

Material

Peabody Language Development

Following Directions and Sequence

Listen, Mark and Say, Instructo Activity Kits, Play It By Ear

DLM Parquetry

DLM Designs in Perspective

Opposite Concepts

Sound/Order/Sense
Auditory Discrimination in Depth

Component Ability	Test
8. Making Analogies: stating logical relationships, making appropriate inferences	
VISUAL	
analogies	ITPA #4
matrix puzzles	
AUDITORY	
analogies	ITPA #3
metaphors	
proverbs	

Material

Identification of Abbreviations

CMMS - The Columbia Mental Maturity Scale
ITPA - The Illinois Test in Psycholinguistic Abilities
MSSST - The Meeting Street School Survey Test
PPMS - The Purdue Perceptual Motor Survey
PPVT - The Peabody Picture Vocabulary Test
WISC - The Wechsler Intelligence Scales for Children

INTRODUCTION TO READING

The great debate about how reading should be taught is really a debate over the order of the approach. A visual approach believes the following order should be followed:

1. The child should know the language he is going to learn to read, at least to a certain degree of competence.
2. The child should learn to recognize a certain number of printed words from total configurations. (SIGHT VOCABULARY)
3. The child should learn the left-to-right principle as it applies to complete words in continuous text. (LETTER SEQUENCING)
4. The child should learn to recognize, discriminate and name the letters of the alphabet. (LETTER RECOGNITION; LETTER NAMING)
5. The child should learn to dissect the spoken words into component sounds. (SOUND BLENDING)
6. The child should learn the one-to-one and multiple correspondences between letters and sounds. (LETTER CODING; MULTIPLE CORRESPONDENCE OF LETTER-SOUND VALUES)

An auditory approach believes the following order should be followed:

1. The child should know the language he is going to learn to read, at least to a certain degree of competence.
2. The child should learn to dissect the spoken words into component sounds. (SOUND BLENDING)
3. The child should learn to recognize, discriminate and name the letters of the alphabet. (LETTER RECOGNITION; LETTER NAMING)
4. The child should learn the left-to-right principle as it applies to complete words in continuous text. (LETTER SEQUENCING)
5. The child should learn the one-to-one and multiple correspondences between letters and sounds. (LETTER CODING; MULTIPLE CORRESPONDENCE OF LETTER-SOUND VALUES)
6. The child should learn to recognize a certain number of printed words from total configurations. (SIGHT VOCABULARY)

(after Carroll, in Gunderson, 1970, p. 33)

If each view is taken seriously, there are clear differences in the kinds of instructional materials and procedures that are used. However, the methods may differ in effectiveness from child to child. Johnson and Myklebust (1967, p. 156) believe the visual dyslexic cannot retain the visual image of a whole word and, consequently, needs an auditory approach to reading. The auditory dyslexic, on the other hand, has difficulty in relating the temporal sequence to a visual-spatial sequence. A visual approach, including tactile and kinesthetic reinforcement, is thus recommended.

An analytic or visual approach involves the analysis of whole words; a synthetic or auditory approach involves the synthesis of sounds into words. Bear concludes from his study (1964, p. 267) that the proponents of each approach abandon their extreme positions and combine the best elements from both.

Venezky et al. (in Gunderson, 1970, p. 51) point out that "dicta for or against pictures in reading texts, for or against nonsense words, for or against irregularly spelled words in early lessons, are pronounced with confidence; yet they are rarely derived from reliable research." Other questions have to do with the teaching of letter names, the blending of isolated sounds into words (c-a-t; ca-t; c-at) and the presentation of structured syllables (a SUCCESSIVE presentation of short vowels, hat - hit - hot, or a CONCURRENT presentation of the dual association of sounds for a given letter, sane - sanity; medical - medicine). The findings of PROJECT LITERACY should have important implications for the teaching of reading. Levin (in Gunderson, 1970, p. 127) points out that dual

associations of sounds for letters are more difficult to acquire, but that once acquired they facilitate the attack on unknown words.

Gibson (1970, p. 142) experimented with three approaches to the teaching of reading. She gave a general clue to aid the discovery of a phonetic rule, the specific rule itself, and no aid at all. She found that providing a general clue brought greater transfer in decoding unfamiliar material than giving either no aid, or the specific rule.

At NEMIC, it has been suggested that no one method is clearly superior to another. Whatever method is used, the teacher's own persuasion should determine techniques and materials to bring success.

READING, SPELLING, HANDWRITING SKILLS

1. LETTER RECOGNITION: perception of distinctive features of letters (capitals, lower-case, printed, cursive).	GIBSON, 1970, 88.
a. open (c - o) b. closed (b - h) c. lined (v - u) d. curved (f - t) e. height (h - n) f. inversed (m - w) g. rotated (b - d) h. internal details (h - k)	
2. LETTER SEQUENCING: left-right direction.	SLINGERLAND, 1969 (Subtest IV)
a. Word matching: (pan nap npa pan nag) student sees letter or word on page; marks it.	
b. Visual tracking: Timed letter or word matching.	SMITH, et al., 1962-5
c. Word matching from memory: Visual stimulus is removed.	SLINGERLAND, 1969 (Subtest III) DURRELL, 1955, #6
d. Sequential or alphabetic ordering of letters from memory:	DETROIT TEST OF LEARNING APTITUDES, (Subtest XVI)
e. Letter or word copying:	SLINGERLAND, 1969 (Subtests I, II)
f. Letter or word copying from memory:	SLINGERLAND, 1969 (Subtest V)

READING, SPELLING, HANDWRITING SKILLS

A reading readiness workbook in visual discrimination, Goldstein, Levitt, Follett

Michigan language program, Smith, et al. Ann Arbor Press, 1962-5

My alphabet book, Wilson, Merrill Linguistic Readers, 1966-7

Consonant pictures for peg board, Ideal School Supply

The first talking alphabet, McMillan, Gonzalez

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

3. LETTER NAMING

Student sees letter; says letter name. If letter names are known, the student will also know one sound value for the letter. The letter names for h, g, w, y are exceptions.

DURRELL, 1955, #5

4. LETTER CODING

Student sees letter; says sound value. The student needs to understand that separate phonemes lose their characteristic sound value in combination with other letters:

th
sh
ch, -tch
ph
-ng
wh
-dge
-ck

ROSWELL-CHALL, 1959, #I, II, III, IV

5. MULTIPLE CORRESPONDENCE OF LETTER-SOUND VALUES

A letter will have a highly predictable sound value if it is considered in conjunction with surrounding letters:

sane	sanity
divine	divinity
medicine	medical

CHOMSKY, 1970
VENEZKY, 1967

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

Learning the letters, Gifford, Educators Publishing Service, 1963
Phonovisual method, Schoolfield, Timberlake, Phonovisual, 1960
Speech-to-print phonics, Durrell, Murphy, Harcourt, Brace & World, 1964
Structural reading series, Stein et al., Singer, 1966
Lift-off to reading, Woolman, SRA, 1966
Basic reading series, Rasmussen, Goldberg, SRA, 1966
Let's read--a linguistic approach, Bloomfield, Barnhart, Barnhart, Inc., 1961
Merrill linguistic readers, Fries et al., Merrill, 1966-7
Mott basic language skills, Chapman, Schulz, 1968
Primary phonics, Makar, Educators Publishing Service, 1967
Programmed reading, Buchanan, Sullivan, McGraw-Hill, 1963-5
Remedial reading series, Sullivan, Behavioral Research Lab, 1966-7

The linguistic readers series, Smith, Stratemeyer, Harper & Row, 1966
Basic reading series, McCracken, Walcutt, Lippincott, 1970
Palo Alto reading, Glim, Harcourt, Brace & World, 1968
Remedial training, Gillingham, Stillman, Educators Publishing Service, 1968
Royal road readers, Daniels, Diack, Educators Publishing Service, 1960
Open court, Hughes et al., Open Court, 1969
Words in color, Gattegno, Xerox, 1968

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

6. SOUND BLENDING:	
a. Tester says sound values /k ae t/ for cat. Student says cat.	GATES-McKILLOP, 1965, #7 ROSWELL-CHALL AUDITORY BLENDING TEST, 1956
b. Tester says straight. Student isolates sounds at beginning or at end of word.	DURRELL, 1955, #7
c. Tester says straight. Student isolates sounds into sequence /s t r ey t/.	
7. VISUAL-AUDITORY INTEGRATION TASKS:	
a. Student sees word; student reads word.	GATES-MacGINITIE, 1965, #1 GATES-McKILLOP, 1962, #2 ROSWELL-CHALL, 1959, (I, II, IV) DURRELL, 1955, #1
b. Syllabication The student is asked to read "nonsense words" and blend syllables into words.	GATES-McKILLOP, 1962, #8.3 GATES-MacGINITIE, 1965, #8.3 ROSWELL-CHALL, 1959, (V)
8. AUDITORY-VISUAL INTEGRATION TASKS:	
a. Tester says letter name; student marks it.	
b. Tester says sound value for letter; student marks letter.	
c. Tester says word; student spells word; marks it.	SLINGERLAND, 1969 (Subtest VIII)
d. "Nonsense words" The student is asked to mark the correct word.	GATES-McKILLOP, 1962, #6.1

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

Distar reading, Engelmann, Bruner, SRA, 1966
Sounds of language readers, Martin et al., Holt, Rinehart & Winston, 1966

Resource materials for teachers of spelling, Anderson, Groff, Burgess, 1968
Spelling and writing patterns, Botel, Follett, 1964-6
Sound and spelling in English, Hall, Jr., Chilton
Basic goals in spelling, Kottmeyer, Claus, McGraw-Hill
Language training for adolescents, Bywaters, Educators Publishing Service
Childs--spelling rules, Childs, Childs, Educators Publishing Service, 1965
Spelling workbooks, Plunkett, Peck, Educators Publishing Service, 1960-1

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

9. AUDITORY-VISUAL-MOTOR INTEGRATION TASKS:	
a. Tester says words; student writes beginning, ending letter for sound value.	SLINGERLAND, 1969 (Subtest VII)
b. Tester says letter name, word; student writes it.	SLINGERLAND, 1969 (Subtest VI)
10. WRITTEN COMPOSITION	MYKLEBUST, 1967

READING, SPELLING, HANDWRITING SKILLS (Cont'd)

DLM--color cued control paper, Developmental Learning Materials
The writing road to reading, Spalding, Spalding, William Morrow
A writing manual for teaching the left-handed, Plunkett, Educators Publishing Service, 1954
Left-handed writing, Gardner, Interstate Special Education Series, 1958
Zweig-Bruno stereo training, Zweig, Bruno, Keystone
Legible print writing, Zaner, Bloser
Handwriting with write and see, Skinner, Krakower, Lyons & Carnahan, 1968
Help yourself to better writing, Emerson, Educators Publishing Service
Training fun with writing, Brenner, Lantzer, Mafex, 1967

TESTS

( )

Baker, H.J. and Leland, Bernice, Detroit tests of learning aptitude, Indianapolis, Indiana: The Bobbs-Merrill Company, Inc., 1967.

19 subtests, each of which yields a mental age, are ranked from the highest score to the lowest and graphed in a visual profile. A general mental age can be derived. Special phases of mental faculties are suggested for each subtest. Combinations of subtests are recommended for the deaf, blind, orthopedic defects, cerebral palsy, impaired speech, foreign language handicap, mentally retarded, gifted (p. 104 Manual).

SUBTEST 1 = Pictorial Absurdities
SUBTEST 2 = Verbal Absurdities
SUBTEST 3 = Pictorial Opposites
SUBTEST 4 = Verbal Opposites
SUBTEST 5 = Motor Speed and Precision
SUBTEST 6 = Auditory Attention-Span for Unrelated Words
SUBTEST 7 = Oral Commissions
SUBTEST 8 = Social Adjustment A
SUBTEST 9 = Visual Attention Span for Objects
SUBTEST 10 = Orientation
SUBTEST 11 = Free Association
SUBTEST 12 = Memory for Designs
SUBTEST 13 = Auditory Attention Span for Related Syllables
SUBTEST 14 = Number Ability
SUBTEST 15 = Social Adjustment B
SUBTEST 16 = Visual Attention Span for Letters
SUBTEST 17 = Disarranged Pictures
SUBTEST 18 = Oral Directions
SUBTEST 19 = Likenesses and Differences

Range: 3 to 19 years

(12-1080)

Beery, K.E., Developmental test of visual-motor integration, Chicago, Illinois: Follett Educational Corporation, 1967.

A series of twenty-four geometric forms to be copied with paper and pencil, arranged in order of difficulty. The test was devised as a non-verbal measure of the degree to which visual perception and motor behavior are integrated in young children. Teaching techniques to parallel areas of assessment are suggested.

Range: 2-15 years. Designed primarily for preschool and early grades.

(12-1111)
Boehm, A.E., Boehm test of basic concepts, New York, N.Y.: The Psychological Corporation, 1969.

Fifty concepts basic to understanding and following directions for K and first grade. The concepts are tested in combination; for example, "point to the last box in the first row"; or attention is focused on opposites such as left-right, top-bottom; or on degree such as far-farther-farthest. Concepts are expressed through more than one sense modality--"a high table", "a high musical note". The manual suggests a second set of concepts which are not tested but are for the benefit of teachers whose pupils have had extreme difficulty with the test.
Range: K to 1st grade
Time: 15 to 20 min.

(12-1105)
Burgemeister, Bessie B., Blum, Lucille H. and Lorge, I., Columbia mental maturity scale, New York, N.Y.: Harcourt, Brace and World, Inc., 1954.

One hundred items are presented to the subject, each of which consists of from three to five line drawings. The task is to choose one of the drawings that is different from or unrelated to any of the others in the series. The bases for discrimination range from the perception of rather gross differences in color or form (for example item number one consists of two blue circles and one black triangle) to recognition of very subtle relations in pairs of pictures so as to exclude one from a series of five drawings. A numerical score is derived that is converted to a mental age and an IQ.
Range: 3 to 12 years
Time: 15 to 20 minutes

(13-591)
Chomsky, Carol, "Reading, writing and phonology", Harvard Educational Review. May, 1970, Vol. 40, No. 2, 287-309.

( )
Cohen, H.J., Taft, L.T., Mahadeviah, M.S. and Birch, H.G., Developmental changes in overflow in normal and aberrantly functioning children, The Journal of Pediatrics. July, 1967, Vol. 71, No. 1, 39-47.

(5-22)
Delacato, C.H., Neurological organization and reading, Springfield, Ill.: Charles C. Thomas, 1966.

(12-1019)
Doll, E.A. (Ed.), Oseretsky tests of motor proficiency, Circle Pines, Minnesota: American Guidance Service, Inc., 1946.

A year-by-year scale of tests of motor maturation for measuring levels of motor proficiency.
Range: 4-16 years
TEST 1 = General Static Coordination
TEST 2 = Dynamic Coordination of the Hands
TEST 3 = General Dynamic Coordination
TEST 4 = Motor Speed
TEST 5 = Simultaneous Voluntary Movements
TEST 6 = Synkinesia

(12-1010)
Dunn, L., Peabody picture vocabulary test, Circle Pines, Minnesota: American Guidance Service, Inc.

The test is designed to provide an estimate of a subject's verbal intelligence through measurement of his hearing vocabulary. No oral response is required. Four pictures are presented on each plate and the examiner speaks a stimulus word. The subject responds by pointing to the picture that best illustrates the meaning of the word.
Range: 3-3 to 17-6 years
Time: 10 to 15 minutes
Three types of scores derived: MA, IQ and percentile.

( )
Durrell, D.D., Durrell analysis of reading difficulty, New York, N.Y.: Harcourt, Brace & World, 1955.

1. Oral reading
2. Silent reading
3. Listening comprehension
4. Word recognition and word analysis
5. Letters: naming, identifying letters named, matching letters
6. Visual memory of words
7. Sounds: hearing sounds in words, sounds of letters
8. Visual memory of words, spelling, handwriting

(12-1035)
Frostig, Marianne, Lefever, W. and Whittlesey, J., Developmental test of visual perception, Palo Alto, California: Consulting Psychologists Press, 1966.

The test seeks to measure five operationally defined perceptual skills as follows:

Frostig, et al, Developmental test of visual perception (Cont'd)

TEST I = Eye-Motor Coordination
TEST II = Figure-ground
TEST III = Constancy of Shape
TEST IV = Position in Space
TEST V = Spatial Orientation

Range: Test can be used as a screening device for nursery school, kindergarten and first grade children, or as a clinical evaluative instrument for older children who suffer from learning difficulties. The test has also been found helpful in assessing the visual-perceptual abilities of adult victims of stroke or other injury.

(12-1081)

Gates, A.I. and MacGinitie, W.H., Gates-MacGinitie reading tests, Columbia University, New York, N. Y.: Teachers College, 1965.

The scores of these tests give a grade level of achievement in reading.

TEST 1 = Oral Reading
TEST 2 = Words: Flash Presentation
TEST 3 = Words: Untimed Presentation
TEST 4 = Phrases: Flash Presentation
(above four - 4. Auditory and Visual Recognition)
TEST 5 = Knowledge of Word Parts: Word Attack
5.1 = Recognizing and blending common word parts.
2. Sound Making
4. Auditory and Visual Recognition
5.2 = Giving letter sounds
2. Sound Making
5.3 = Naming capital letters
10. Naming
TEST 6 = Recognizing Visual form or Word Equivalents of Sounds
6.1 = Nonsense Words
4. Auditory and Visual Recognition
6.2 = Initial Letters
6.3 = Final Letters
6.4 = Vowels
(above three - 4. Auditory and Visual Recognition
7. Auditory Discrimination)
TEST 7 = Auditory Blending
2. Sound Making
TEST 8 = Supplementary Tests
8.1 = Spelling
13. Sequencing
8.2 = Oral Vocabulary
11. Word Finding

Gates and MacGinitie, Gates-MacGinitie reading tests (Cont'd)

TEST 8.3 = Syllabication
2. Sound Making
8.4 = Auditory Discrimination
7. Auditory Discrimination

(12-1082)
Gates, A.I. and McKillop, Anne S., Gates-McKillop reading diagnostic tests, Columbia University, New York, N.Y.: Teachers College, 1962.

The test is designed to diagnose cause of reading deficiency in terms of the pupil's unique handicaps. Age scores are converted to grade scores in reading achievement.

TEST 1 = Oral Reading
TEST 2 = Words: Flash Presentation
TEST 3 = Words: Untimed Presentation
TEST 4 = Phrases: Flash Presentation
TEST 5 = Knowledge of Word Parts: Word Attacks
5.1 = Recognizing and Blending Common Word Parts
5.2 = Giving letter sounds
5.3 = Naming capital letters
5.4 = Naming lower case letters
TEST 6 = Recognizing the visual form or word equivalents of sounds
6.1 = Nonsense words
6.2 = Initial letters
6.3 = Final Letters
6.4 = Vowels
TEST 7 = Auditory Blending
TEST 8.1 = Spelling
8.2 = Oral Vocabulary
8.3 = Syllabication
8.4 = Auditory Discrimination

(5-233)
Gibson, E.J., Principles of perceptual learning and development, New York, N.Y.: Appleton-Century-Crofts, 1969.

(12-1102)
Goldman, R. and Fristoe, Macalyne, Goldman-Fristoe test of articulation, Circle Pines, Minn.: American Guidance Service, 1969.

The test is designed to provide a systematic means of assessing an individual's articulation of the consonant sounds. Descriptive information about the individual's articulation skills is obtained through three subtests: Sounds in Words, Sounds in Sentences, Stimulability. Sounds are tested in the initial, medial, and final positions.

(12-26)
Goldman, R., Fristoe, Macalyne and Woodcock, R.W., Goldman-Fristoe test of auditory discrimination, Circle Pines, Minnesota: American Guidance Service, Inc., 1970.

The test is designed to provide measures of speech sound discrimination ability, relatively unconfounded by other factors. It provides a measure of auditory discrimination under ideal listening conditions plus a comparative measure of auditory discrimination in the presence of controlled background noises.
Range: 4 years to adult.

(12-1117)
Hainsworth, P.K. and Siqueland, Marian L., Early identification of children with learning disabilities: the Meeting Street school screening test, Providence, R.I.: Crippled Children and Adults of R.I., Inc., 1969.

1. Motor patterning:
   - bilateral sequential movement patterns
   - awareness of body in space
     - gait patterns (skip, dance)
     - clap hands
     - hand patterns
     - follow directions I
     - touch fingers
2. Visual-perceptual motor
   - block tapping
   - visual matching
   - visual memory
   - copy forms
   - follow directions II
3. Language
   - repeat words
   - repeat sentences
   - counting
   - tell-a-story
   - language sequencing

(12-1072)
Harris, A.J., Harris test of lateral dominance, New York, N.Y.: The Psychological Corporation, 1958.

This is a dominance test of eye-hand-foot preference with interpretations available for the results.
MATERIALS NEEDED:

1. Record Blanks
2. Miles ABC Vision Test
3. A piece of cardboard, 7"x10", with a 1" hole in the center

Harris, Harris test of lateral dominance (Cont'd)

MATERIALS NEEDED (Cont'd)

4. A kaleidoscope
5. A toy telescope
6. A cloth-covered beanbag
7. A deck of 52 playing cards
8. A toy rifle approximately 2' long

TEST 1 = Knowledge of right-left
TEST 2 = Hand preferences
TEST 3 = Simultaneous writing
TEST 4 = Handwriting
TEST 5 = Tapping
TEST 6 = Dealing cards
TEST 7 = Strength of grip (optional)
TEST 8 = Monocular tests
8.1 = Kaleidoscope
8.2 = Telescope
8.3 = Sight rifle
TEST 9 = Binocular tests
9.1 = Cone
9.2 = Hole in card
TEST 10 = Stereoscopic tests (optional)
TEST 11 = Foot dominance
11.1 = Kicking
11.2 = Stamping

(12-1043)

Kirk, S.A., McCarthy, J.J. and Kirk, Winifred D., Illinois test of psycholinguistic abilities, Urbana, Illinois: University of Illinois Press, 1968.

No. 1 = Auditory Reception: questions that make sense, nonsense
No. 2 = Visual Reception: picture stimulus; find one that matches
No. 3 = Visual Sequential Memory
No. 4 = Auditory Association: analogies
No. 5 = Auditory Sequential Memory
No. 6 = Visual Association: analogies
No. 7 = Visual Closure
No. 8 = Verbal Expression
No. 9 = Grammatic Closure
No. 10 = Manual Expression
No. 11 = Auditory Closure
No. 12 = Sound Blending

(ED 036 039)

Kohen-Raz, Developmental patterns of static balance ability and their relation to cognitive school readiness, Pediatrics, Aug., 1970, 46, 2, 276-285.

(12-1056)
MacDonald, E.T., Articulation testing and treatment, Pittsburgh, Pennsylvania: Stanwix House, 1964.

(10-322)
Menyuk, Paula, Sentences children use, Cambridge, Mass.: M.I.T. Research Monograph No. 52, MIT Press, 1969.

(12-1053)
Money, J., Standard road map test of direction sense, Baltimore, Maryland: Johns Hopkins Press, 1965.

The test was devised to evaluate right-left directional orientation. Subject is given a map. Examiner draws a route through "city blocks". Subject is instructed to tell which way he would turn at each corner.
Range: School-age children

(12-1002)
Myklebust, H.R., Picture story language test: development and disorders of written language, Vol. 1, New York, N.Y.: Grune and Stratton, 1967.

Test consists of a picture about which a story is written. Some of the clinical and educational situations in which the test can be applied are: (p. 70)

1. As a diagnostic instrument for the study of children with language disorders and other types of learning disabilities.
7. To define the errors of written language which characterize the performances of the deaf, aphasic, MR, speech defective, emotionally disturbed, dyslexic and dysgraphic.
8. To obtain data for comparatively analyzing facility with the spoken, read and written word.
9. As a tool for studying grammar and the syntactical development of sentence structure.

(p. 72, 3rd paragraph)
Aspects of language measured are productivity, correctness, meaning as measured by Productivity Scale, Syntax scale, Abstract-concrete scale.

(12-1037)
Roach, E.G. and Kephart, N.C., The Purdue perceptual-motor survey, Columbus, Ohio: Charles E. Merrill Books, Inc., 1966.

This test consists of 22 scorable items which can be divided into three major sections: those concerned with some aspect of laterality and direction, and those with the skills of perceptual motor matching. Tasks include: WALKING BOARD, JUMPING, IDENTIFICATION OF BODY PARTS, IMITATION OF MOVEMENTS, OBSTACLE COURSE, KRAUS-WEBER TASKS, ANGELS IN THE SNOW, CHALKBOARD, RHYTHM WRITING, and OCULAR PURSUITS.

(12-1045)
Roswell, Florence G. and Chall, Jeanne S., Roswell-Chall auditory blending test, New York, N.Y.: Essay Press, 1963.

Purpose: to evaluate a pupil's ability to blend sounds to form words when the sounds are presented orally.

(12-1049)
Roswell, Florence G. and Chall, Jeanne S., Roswell-Chall diagnostic reading test of word analysis skill, New York, N.Y.: Essay Press, 1959.

Designed as a test of word analysis skills, and provides the examiner with an estimate of the pupil's strengths and weaknesses in word recognition. These skills are presented in the order in which they are usually taught--single consonants, consonant combinations, short vowels, rule of silent e, vowel combination, and syllabication.

Range: appropriate for 2nd to 6th grade level.
Form I and II

Tests:
I Single Consonants and Combinations
II Short Vowel Sounds
III Rule of silent e
IV Vowel Combinations
V Syllabication

(12-1065)
Slingerland, Beth H., Screening tests for identifying children with specific language disability, Cambridge, Mass.: Educators Publishing Service, Inc., 1969.

TEST 1 = Copying words from wall chart
TEST 2 = Copying words from page
TEST 3 = Word matching from memory
TEST 4 = Letter sequencing
TEST 5 = Word copying from memory
TEST 6 = Writing letters for letter names
TEST 7 = Writing letters for sound values
TEST 8 = Marking word

(20-2-1-12-2-3-32)
Smith, D.E., et al, Visual tracking, Ann Arbor, Michigan: Ann Arbor Press, 1962-65.

( )
Venezky, Richard L., "English orthography: its graphical structure and its relation to sound", Reading Research Quarterly, Spring, 1967.

(12-1017)
Wechsler, D., Wechsler intelligence scale for children, New York, N.Y.: The Psychological Corporation, 1949.

A series of verbal and performance tests that give a score that is converted to a deviation IQ rather than the standard type of IQ. The tests include:

1 = General Information
2 = General Comprehension
3 = Arithmetic
4 = Similarities
5 = Vocabulary
6 = Digit Span
7 = Picture Completion
8 = Picture Arrangement
9 = Block Design
10 = Object Assembly
11 = Coding
12 = Mazes

Range: up through 15 years of age

(12-1025)
Wepman, J.H., Wepman auditory discrimination scale, Chicago, Illinois: University of Chicago Press, 1958.

Paired words are presented orally to the subject which are alike, or alike except for one phoneme. The subject indicates whether the words sound the same to him or different.

(12-1113)
Witkin, H.A., Embedded figures test, Palo Alto, California: Consulting Psychologists Press, Inc., 1969.

An instrument for assessing individual modes of cognitive functioning or cognitive styles. Raw scores are converted into mean and standard deviations for the age levels of 10, 11, 12, 13, 15, 30 to 39 and college students.

Range: 10 years to adult
Time: 36 minutes

TITLE: Auditory discrimination, beginning sounds

NEMIC NO: 20-2-6-12-2-39
CLASSIFICATION NO:

AUTHOR: Venditti, F., & Murray, Evelyn.

VENDOR: Millikin Publishing Co., 1971

GRADE RANGE: Pre-school & kindergarten

PRICE: $6.95

CONTEXT: Class or small group in class

TEACHER'S MANUAL: Part of introduction--first 5 pages.

CONTENTS AND DURABILITY: Soft cover booklet containing transparencies and worksheets.

PROGRESS: Teacher determines progress.

STATEMENT OF PURPOSE: Major purpose--to assist with the teaching of 10 common beginning consonant sounds: b, m, f, t, d, r, s, c, h, and g. Lessons will also help children to learn to follow directions, teach visual discrimination, motor and eye-hand coordination. Also to help establish habit of left-to-right eye movement. Development of the ability to hear the sound of letters and to associate these sounds with the appropriate letters.

TITLE: Auditory discrimination in depth

NEMIC NO: 20-2-6-12-2-37
CLASSIFICATION NO:

AUTHOR: Lindamood & Lindamood

VENDOR: New York Times Teaching Resources , 1971

GRADE RANGE: All ages--preschool, kindergarten, beginning readers and students with English as a second language, slow learners, or students with learning disabilities, remedial at an intermediate to adult level, and remediation of speech problems, e.g., aphasia, hard of hearing.

PRICE: $49.50

CONTEXT: Individual/small group with teacher supervision.

TEACHER'S MANUAL: Vinyl bound 3-ring binder instructor's text and guide.

CONTENTS AND DURABILITY: 7 inch record, 3 spirit duplicating masters
Unit A = 4 sets of 3/4 inch colored wooden blocks, ea. set = 24 blocks
Unit B = 1 set of 4 inch colored felt squares (15 pieces)
Unit C = 1 set of 3 inch colored felt squares (24 pieces)
Unit D = 1 set of 3 inch pink felt squares (23 pieces)
Unit E = 1 set of 3 inch yellow felt squares (28 pieces)
Unit F = 4 sets of mouth-form flash cards (2-1/4" x 3-1/2" plastic laminated playing cards)

TITLE: Auditory discrimination in depth

NEMIC NO: 20-2-6-12-2-37

Contents and Durability (Cont'd)

Unit G = 4 sets of consonant and vowel symbol cards
Unit H = 4 sets of letter symbol tiles (plastic)

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Designed to teach beginning students or below average students of any age the basic auditory-perceptual skills necessary to read and spell, i.e., the ability to decode (translate the printed or written pattern into an oral (spoken) pattern--reading and speech) and to encode (translate from spoken language to graphic symbol patterns--writing and spelling)
Program is organized into 4 levels:

1) Gross Level--the child is introduced to selective listening and discrimination.
2) Oral-Aural Level--identification and categorization of consonant and vowel sounds is taught by grouping sounds that are similar in the movements of the oral musculature necessary to produce them. Sequencing of sound is introduced with the use of colored blocks representing sounds and which can be arranged to signify changes in oral patterns.
3) Sound-Symbol Level--graphic symbols are associated with the sounds they represent.
4) Coding--reading and spelling using the systems established in the other 3 levels.

TITLE: Auditory discrimination game

NEMIC NO: 20-2-6-11-2-35
CLASSIFICATION NO:

AUTHOR: Speech & Language Materials, Inc.

VENDOR: Speech & Language Materials, Inc., 1970
PRICE: $6.50 per set

GRADE RANGE: Pre-primary to primary

CONTEXT: Individual/group activity

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: Each set includes 72 matching picture cutouts to correspond to the plates. All plates measure 8½" x 11" and are mounted on heavy duty board.

PROGRESS: Teacher evaluation of pupil progress

STATEMENT OF PURPOSE: A speech therapy aid, the three sets of this game provide excellent material for work in auditory discrimination. Set 1 contains rhyming words; Set 2 contains words with the same initial and final consonant sounds with changes in vowel sounds. Set 3 contains

TITLE: Auditory discrimination game NEMIC NO: 20-2-6-11-2-35

Statement of Purpose (Cont'd)

words with changes in the final consonant sound only. Games for sets 1, 2, and 3 contain 6 plates ranging from a 2- to 4- word discrimination task.

TITLE: Auditory discrimination--rhyming words
NEMIC NO: 20-2-6-12-2-40
CLASSIFICATION NO:

AUTHOR: Venditti, F., & Murray, Evelyn.
VENDOR: Millikin Publishing Co., 1971
GRADE RANGE: Pre-school, kindergarten, reading readiness level
PRICE: $6.95

CONTEXT: Used with groups or individually.

TEACHER'S MANUAL: Part of introduction (5 pp.)

CONTENTS AND DURABILITY: 20 soft-bound, detachable transparencies and 20 matching duplicating masters. Transparencies are plastic; duplicating masters are heavy paper. All are pictures of storybook characters or everyday articles and activities.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: To assist in developing the ability to hear rhyming sounds; also to teach children to follow directions, visual discrimination, motor and hand-eye coordination and left-to-right eye movement. Work-sheets are run off from duplicating masters used in conjunction with transparencies. Selected nursery rhymes and other activities accompany each picture. Teacher innovation is encouraged.

TITLE: Autosort language arts program
NEMIC NO:
CLASSIFICATION NO:

AUTHOR: Instructional Dynamics, Inc.
VENDOR: Bell and Howell Co., 1968
PRICE: $219.00--Levels A and B

GRADE RANGE: Pre-primary to primary

CONTEXT: Classroom activity

TEACHER'S MANUAL: One copy each of General Guide, Cooling and Sorting Guide, and an Operational Guide.

CONTENTS AND DURABILITY: Level A = 112 cards in 8 instructional units
Level B = 172 cards in 15 instructional units

TITLE: Autosort language arts program

NEMIC NO:

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The Autosort Language Arts Program (ALAP) follows "the natural order of learning language: listening, speaking, reading, writing" in the presentation of materials which must be used with a Language Master. The prerecorded program employs the aural-oral approach; cards contain a stimulus auditory track with a second track for student response. Visuals are used on each card to help sharpen perception and association, and to help develop critical eye-ear coordination required for effective reading and speaking. The material can strengthen word-sound association and discrimination, as well as help in the development of basic sentence patterns. Lesson plans and suggested activities are printed on the backs of the cards. The cards contain holes along the top edge; these are notched so that, with the use of a sorting needle and hole sorting technique, flexibility of sequencing and selection of materials is allowed.

TITLE: Basic goals in spelling

NEMIC NO: 20-2-3-12-2-9
CLASSIFICATION NO:

AUTHOR: Kottmeyer, W., & Claus, A.

VENDOR: McGraw-Hill Book Co., 1968
PRICE: $2.72

GRADE RANGE: Grades 1-3

CONTEXT: Individual/group

TEACHER'S MANUAL: Within text

CONTENTS AND DURABILITY: 1 softbound workbook) Instructions for teacher
2 hardbound workbooks) within text

PROGRESS: Teacher determines progress.

STATEMENT OF PURPOSE: Series of hard-cover spelling workbooks. Spelling rules are explained in clear, simple language and in logical sequence so the child is introduced to spelling rules gradually. The books are colorfully illustrated; they may be started in the first grade.

TITLE: Basic reading series--grades 1-3, pre-primer and primer

NEMIC NO: 20-1-2-2-2-245
CLASSIFICATION NO:

AUTHOR: McCracken, G., & Walcutt, C.C.

VENDOR: J.B. Lippincott, 1970
PRICE: 1-1 Reader plus 1-2 Reader = $3.60; 2-1 Reader plus 2-2 Reader = $2.20; 3-1 Reader plus 3-2 Reader = $4.44.

GRADE RANGE: Grades 1-3

TITLE: Basic reading series-- grades 1-3, pre-primer and primer

NEMIC NO: 20-1-2-2-2-245

CONTEXT: Workbooks as a supplement to established curriculum or total program as a complete reading program for grades 1-3.

CONTENTS AND DURABILITY:
Teacher's Edition Basic Reading Book A
Teacher's " " " " B
Teacher's " " " " C
Pre-primer: a,e,i,o,u,m,n,r,s,d,nd,t,st,nt,g,p,gr,dr,sp,mp,c,h,f.
Basic Reading Series 1-1 Reader and 1-2 Reader
Basic " " 2-1 " " 2-2 "
Basic " " 3-1 " " 3-2 "
Plus corresponding workbooks
Primer: ar,w,ow (cow),i,b,te,k,ck,nk,-e,ee,ea,ai,ie,ir,ire,o,or,ore,oe,oa,j,v.

PROGRESS: Teacher determines progress.

STATEMENT OF PURPOSE: An audio-visual reading program in which the workbooks developed within the materials may be used independently to reinforce reading skills. Each lesson in the Grade One books 1-1 Reader and 1-2 Reader presents a new element. Rigid control of these linguistic elements is practiced so that the pupil can attack successfully new words containing previously taught linguistic elements. He meets minor sound spelling patterns and irregular sound spellings, punctuation marks, sentence length, paragraphing, and story titles. 1-1 Reader = sh, ch, tch, th, wh, qu, x, y, z, ing, ed, er, or, ur, y, c/s/, g/j/, -tion, -sion, oo, ow (yellow), ou, oi, oy. 1-2 Reader = ve, ui, ew, eau, aw, au, ph, ch/k/, ch/sh/, wr, kn, silent letters, ea, ie, ei, rough, ey. 2-1 Reader and 2-2 Reader = review of phoneme-graphemes presented in grade 1, enriched vocabulary, stories and poems and variety of suggested activities and projects. 3-1 Reader and 3-2 Reader = stories and poems.

TITLE: Basic reading series, levels A-F

NEMIC NO: 20-1-1-12-1-108
CLASSIFICATION NO:

AUTHOR: Rasmussen, D., & Goldberg, Lynn

VENDOR: Science Research Associates, 1966

GRADE RANGE: Beginning program in first grade - second grade

PRICE: $15.84

CONTEXT: Individual/group

TEACHER'S MANUAL: Yes

TITLE: Basic reading series, levels A-F

NEMIC NO: 20-1-1-12-1-108

CONTENTS AND DURABILITY: 7 soft-cover workbooks (alphabet books)
4 hard-bound texts
2 soft-bound texts
Soft-bound Administrator's Guide, Teacher's Handbook and Teaching Guide

PROGRESS: Proper pace: child makes discoveries of sound-spelling relationships--needs teacher's assistance to master and discover sound-spelling relationships he is having trouble with; child progresses at individual rate of learning--recommended as one-to-two-year beginning reading program.

STATEMENT OF PURPOSE: The SRA Basic Reading Series employs an inductive method--construction of concepts by perceiving inner consistencies in groupings--enabling the child to discover the underlying structure of spoken and written language. The aim of the program is to "enable the child to discover the patterns of sound-spelling relationships by arranging or sequencing the words in such a way that the child systematically encounters the similarities and contrasts". As a result he should be able to make his own inferences about sounds represented by letters that spell words he has never seen before.

LEVEL A = THE PIG CAN JIG: Three-letter words in consonant-vowel-consonant pattern representing one-to-one correspondence between a letter and a sound.

Introduced: most common sounds--a (bat); i (bit)
suffix s for plurals; possessives
compounds of pattern words--(icebag)
two-letter words--(at, if)

LEVEL B = A HEN IN A FOX'S DEN: Three-letter words in consonant-vowel-consonant pattern, representing one-to-one correspondence between a letter and a sound continued.

Introduced: e (net); o (not); u (nut)
compounds of pattern words--(sunset)
two-letter words--(on, up)

LEVEL C = SIX DUCKS IN A POND: Four-letter words with consonant digraphs. Two consonant letters representing single sound (bell). Final i initial consonant clusters in one-to-one correspondence between consonant letter and sound--(band). Initial consonant clusters. Final consonant digraphs in five-letter words--(clock). Compounds of pattern words--(himself).

LEVEL D = A KING ON A SWING: Four-, five-, and six-letter words with consonantal diphthongs, trigraphs and clusters illustrating correspondence of the consonant letter, two consonant letters and three consonant letters to one sound in words (i.e., bank, bang). Negative contractions--(mustn't). Contractions of pronouns and verbs--(I'd). Compounds of pattern words--(bathtub). Suffix ING--(banking).

LEVEL E = KITTENS AND CHILDREN: One-syllable words with five or more sounds--(branch). Two-syllable words with first syllable stressed--(butter). Suffixes, vowel digraphs and diphthongs illustrated one-to-one correspondence of two vowel letters to a single sound in the consonant-vowel-vowel-consonant pattern--(need). Multisyllabic words with first syllable unstressed--(pajamas). Prefixes. Vowel-consonant--e pattern--

TITLE: Basic reading series, levels A-F

NEMIC NO: 20-1-1-12-1-108

Statement of Purpose (Cont'd)

(late). Additional vowel digraphs, diphthongs, triphthongs--(crow). Compounds of pattern words--(fireman). Morphemic derivatives.
LEVEL F = THE PURPLE TURTLE: Consonant-vowel = r; consonant-vowel-vowel = r; vowel r-e patterns. Diphthongs plus -r-. Triphthongs. Less frequent vowel-letter, vowel-digraph, trigraph and triphthong patterns--(eye). Less frequent consonant letters in one-to-one correspondence to single sounds--(face). Consonant digraphs. Compounds of pattern words--(blackbird).

TITLE: Captain Good Speech and Mr. Mumbles

NEMIC NO: 20-2-2-12-2-111
CLASSIFICATION NO:

AUTHOR: Sayre, J., & Mack, J.E.

VENDOR: Eye-Gate House, Inc., 1969
PRICE: $155.00 - complete set

GRADE RANGE: Pre-primary, slow learners in elementary grade

CONTEXT: Teacher/class

TEACHER'S MANUAL: 1 teacher's manual

CONTENTS AND DURABILITY: 1 copy Student Activity Book with mirror; 8 packages Sequence Crads; 4 records; 6 filmstrips.

PROGRESS: Six pre-listening readiness tests--pupil hears sound, marks corresponding picture in workbook.

STATEMENT OF PURPOSE: To develop listening and improve speech. Filmstrips:
AURAL COMPREHENSION: A = Introduction to Captain Good Speech--script, tests, visual identification, follow-up activities. B = Tommy Good Speech--script-story, tests, follow-up. C = Mr. Mumble Learns to Listen--script, tests, story sequence test, additional activities.
AUDITORY COMPREHENSION AND DISCRIMINATION: D = Adventures With Sounds--script, tests, additional activities, speech helpers. E = A Good Neighbor Helps--script, tests, story sequence tests. F = Mr. Mumble Goes to Camp--script, additional activities, story sequence tests. Listening Exercises--not on filmstrips--story sequence cards:
AURAL COMPREHENSION:
1. The Tiger and the Monkey--script, tests, story sequence test.
2. A Tale of Two Kitties--script, tests, story sequence tests.
3. Toy Makers--script, tests, story sequence tests.
4. Hubert Hamster--script, tests, story sequence tests.
5. Pete The Little Grey Mouse--script, tests, story sequence tests.

TITLE: Cheves: visual-motor perception teaching materials

NEMIC NO: 20-3-3-5-2-10
CLASSIFICATION NO:

AUTHOR: Cheves, Ruth.

VENDOR: Teaching Resources, 1970-71
PRICE: $65.00 complete set

GRADE RANGE: Kindergarten, primary, special class levels

CONTEXT: Individual student, with teacher supervision

TEACHER'S MANUAL: Yes

CONTENTS AND DURABILITY: Fruit and Animal Puzzles (small); Form Puzzles (large); Geometric Shapes in Color; Association Cards; "See and Say" Puzzle Cards; Configuration Cards; Ordinal Placement Board; Flip and Build; Concept Blocks in Color; "Show You Know--Then Go" Phonics Game.

PROGRESS: Teacher's evaluation of student's progress

STATEMENT OF PURPOSE: Materials are designed to improve a child's visual-motor perception by means of aids that involve figure-ground and spatial relationships. They are also designed to develop a child's kinesthetic (motor) skills, e.g., reaching, grasping, releasing. A highly structured developmental basis for reading and arithmetic readiness is inherent in all of the cards, puzzles and games in the set.

FRUIT AND ANIMAL PUZZLES = assist child in getting ready for readiness, i.e., pictures of a peach, apple, orange, horse, rabbit, dog and cat are printed in vivid colors and packed in separate boxes. Each box contains 6 pictures of the same subject--one remains uncut, the other 5 are cut into different shapes. The object: to piece the puzzle together, making a whole object to match the uncut picture. Each puzzle subject increases in difficulty and in the number of pieces it contains.

FORM PUZZLES (SMALL AND LARGE) = help develop a child's ability to see the relationships of parts of a whole. The small puzzles are 4" x 4"; the large puzzles are 6" x 6". These differences in size provide for differences in motor coordination and skill. The puzzles make it easy for a child to combine visual and kinesthetic dimensions with the use of the primary and complementary colors.

GEOMETRIC SHAPES IN COLOR = help strengthen the visual-motor perception of reading readiness. Geometric shapes, portrayed in 6 true colors, help teach matching and recognition of colors. They also assist child in identifying shapes and discriminating among them.

ASSOCIATION CARDS = assist in the development of reading readiness. Cards consist of geometric shapes and companion cards with pictures in true-to-life color. These abstract-reasoning cards help teach a child the association between shapes and pictures. This is a simple yet thoroughly effective way to supplement and enrich a child's fine motor development through picture matching.

"SEE AND SAY" PUZZLE CARDS = emphasize development in reading readiness and visual-motor coordination. Fourteen rhyming picture cards, each cut in a different shape, develop child's ability to recognize and hear rhyming

TITLE: Cheves: visual-motor perception teaching materials NEMIC NO: 20-3-3-5-2-10

Statement of Purpose (Cont'd)

sound by matching two pictures, e.g., picture of a bee, picture of a tree. The completed rhyme picture is outlined by a border, thus reducing child's visual field and helping him to focus his attention on this task.
CONFIGURATION CARDS = assist in development of arithmetic readiness. Three sets of cards with configurations (e.g., . :) from 1-6 are presented in 3 ways: one set is color-cued, a second set is in one color, and a third set is black and white. Each set contains 36 cards which help teach pattern and number matching through one-to-one correspondence.
ORDINAL PLACEMENT BOARD = helps child learn numerical position. The board contains slots into which numerals from 1-6 are placed. It is an aid in teaching primary counting and placement by correct positioning of numerals.
FLIP AND BUILD = provides tactual and/or kinesthetic modality in learning numerals. Nine sets of flip cards are used in building the concepts from 11-99. Individual, manipulative cards clearly show a child the position of the numeral in the group to determine its value.
CONCEPT CLOCKS IN COLOR = provide for the application of previously learned skills and facilitate learning to full time. One clock has warm color to identify DAY, or "light" hours, and a cool color to represent NIGHT, or "dark" hours. The second clock is in black and white, with a red hour hand and a blue minute hand. The large, manipulative desk clocks provide the child necessary visual and tactual modalities.
"SHOW YOU KNOW--THEN GO" PHONICS GAME = stimulates learning of initial consonant sounds, blends and digraphs by unique application of a nondistractive game board. This game builds and extends oral vocabulary. It presents an interesting challenge to player on a game board that is completely devoid of extraneous stimuli.

TITLE: Childs spelling rules NEMIC NO: 20-2-3-12-2-22
CLASSIFICATION NO:

AUTHOR: Childs, Sally B., & Childs, R. deS.

VENDOR: Educators Publishing Service, 1965
PRICE: $ .75

GRADE RANGE: Primary to elementary

TEACHER'S MANUAL: Curriculum guide

CONTENTS AND DURABILITY: Softbound resource manual for teachers

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Twenty-nine-page manual of American-English spelling rules written by practitioners of the Gillingham method. Good resource for teachers, since each rule is accompanied by suggestions for the effective teaching of it.

TITLE: Consonant pictures for peg board

NEMIC NO: 20-2-1-12-2-38
CLASSIFICATION NO:

GRADE RANGE: Any age

CONTEXT: Group or individual; to be used on the Ideal No. 9772 Peg Board

VENDOR: Ideal School Supply Co., 1970-71
PRICE: $4.00

TEACHER'S MANUAL: No

CONTENTS AND DURABILITY: 179 picture cards; 29 consonant cards.

PROGRESS: Student(s) progress

STATEMENT OF PURPOSE: Picture cards that coordinate with consonant symbols (179 picture cards/30 consonant symbols). Method of drill technique: cards can be hung on a peg board, etc., or used as flash cards, to aid in teaching initial and final sounds and their symbols.

TITLE: Detect--a sensorimotor approach to visual discrimination

NEMIC NO: 20-3-4-12-3-38
CLASSIFICATION NO:

AUTHOR: Gould, L.N.

VENDOR: SRA, 1970
PRICE: $383.34 total program (including OPTA)

GRADE RANGE: Pre-primary to primary

CONTEXT: Individual/small group

TEACHER'S MANUAL: 2 copies

CONTENTS AND DURABILITY: 2 soft-cover Teacher Handbooks
3 soft-cover Student Workbooks: A,B,C
1 set of 33 LEVEL A cardboard transparencies
1 set of 49 LEVEL B " "
1 set of 54 LEVEL C " "
1 Overhead Projector Tachistoscopic Adaptor (OPTA)
N.B.....Levels A-C represent levels of difficulty--progresses from easy (A) to more difficult (C).

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Detect is designed to help the child develop the essential perceptual-cognitive skills needed for learning in the pre-primary-primary classroom. Visual perception of images (geometric forms, patterns, spatial relationships, alphabet, numerals, punctuation and math symbols) is taught by the Tachistoscopic method of presentation, i.e., the teacher flashes an image on a screen and the pupil marks in his workbook an image corresponding to the projection. Pupils verbally describe

TITLE: Detect--a sensorimotor approach to visual discrimination

NEMIC NO: 20-3-4-12-3-38

Statement of Purpose (Cont'd)

the images in terms of shape, position and direction. They learn to recognize symbols and see similarities and differences in form and configuration.

TITLE: Distar reading I and II: an instructional system

NEMIC NO: 20-1-1-12-2-94 (I)
20-1-2-12-2-234 (II)
CLASSIFICATION NO:

AUTHOR: Engelmann, S., & Bruner, Elaine C.

VENDOR: Science Research Associates, Inc., 1966
PRICE: Distar I = $50.00
Distar II= $75.00

GRADE RANGE: Pre-school to second grade

CONTEXT: Small homogeneous groups--4 to 10 children in each; as they improve, groups may be slightly larger.

TEACHER'S MANUAL: One for Distar I, Distar II

CONTENTS AND DURABILITY: In both Reading I and Reading II the teacher materials consist of an attractive, durable Classroom Kit containing 4 spiral-bound presentation books, an acetate page protector, group-progress indicators, and a detailed Teacher's Guide. The kit for Reading I also contains 2 pronunciation records; the kit for Reading II contains 3 decks of colored cards to be used in a group of comprehension exercises. The student materials in Reading I consist of daily Take-Home sheets and Student Workbooks. In Reading II, all student materials appear on Take-Home sheets.

PROGRESS: Group-progress indicators

STATEMENT OF PURPOSE: Distar Reading is a two-year program designed to teach children the basic skills necessary to crack the reading code. It has been particularly successful in preschool through second-grade classes. Reading I concentrates on the basic word-attack skills. Sound-symbol identification begins in the first lesson. Initially, children learn symbols as sounds, not letter names. At appropriate points in the program they learn related reading skills. Student Take-Home materials expand skills taught in daily lessons. In Reading I, special reading prompts are used to maintain a consistent relationship between word spelling and pronunciation.
In Reading II, reading prompts are gradually phased out and reading vocabulary is carefully expanded. Reading comprehension is strongly emphasized in student Take-Home materials. Reading II materials include

TITLE: Distar reading I and II: an instructional system

NEMIC NO: 20-1-1-12-2-94 (I)
20-1-2-12-2-234 (II)

Statement of Purpose (Cont'd)

the Recycling Book, which is a review of Reading I skills that may have been forgotten during summer vacation. The results of the Recycling Placement Test will indicate whether review is necessary and where it should begin.

TITLE: DLM buzzer board and pattern cards

NEMIC NO: 20-2-6-2-½-29
20-2-6-2-½-30

CLASSIFICATION NO:

GRADE RANGE: Pre-primary and primary

CONTEXT: Teacher/individual student

TEACHER'S MANUAL: Directions on package

VENDOR: Developmental Learning Materials, 1971

PRICE: Buzzer Board $8.50
Buzzer Board Pattern Cards $2.75

CONTENTS AND DURABILITY: Buzzer Board = battery-operated (size "C"), 8½" x 11" vibratory action on top plate; Pattern Cards = 62, 7½" x 3-3/4", printed on heavy stock.

PROGRESS: Teacher's evaluation of student's progress

STATEMENT OF PURPOSE: Buzzer Board provides an inexpensive easy-to-use tool for teaching a person to hear with discrimination. It can be used on an auditory-motor basis or with signal cards in visual-motor-auditory training. Use of short and long signals in first simple and then complex patterns give practice in nonverbal auditory discrimination and serves as a preliminary exercise in developing a sense of rhythm. Operation of the buzzer board requires the depression of one simple button, so that one who lacks the coordination to clap out a rhythm with his hands can experience success with this device. The buzzing operates on two size "C" batteries (not included), and produces a vibratory action on the top plate. Consequently, a tactile reinforcement of an auditory signal may be obtained by placing a hand or finger on the top.
Buzzer Board Pattern Cards are designed to be used in conjunction with the Buzzer Board. This set of 62 pattern cards of long and short sounds is programmed from simple to difficult. This offers an established series of exercises in auditory nonverbal discrimination with the Buzzer Board.

TITLE: DLM color-cued control paper

NEMIC NO: 20-2-4-12-½-8
CLASSIFICATION NO:

GRADE RANGE: Pre-primary to primary

VENDOR: Developmental Learning Materials, 1970

CONTEXT: Individual pupil activity

PRICE: $5.00

TEACHER'S MANUAL: Sample sheet enclosed

CONTENTS AND DURABILITY: 1 cardboard box of 500 sheets, 3½" x 11"

PROGRESS: Teacher evaluation of student's work papers

STATEMENT OF PURPOSE: Especially helpful for children who have difficulty writing in a straight line or who make their letters either excessively large or small, or who do not understand that specific letters are supposed to be larger than others. Color-cued control paper resembles regular composition paper except in its use of color. Where there would ordinarily be one writing line, there are four parallel lines. The upper and lower lines are red; the two in between are green. The child is to be helped to make letters, such as "l" and "h", reach to the upper red line, and letters like "p" and "g" approach the lower red line. Letters, such as "a" and "e", are to fit between the green lines. This paper may be used at the outset of penmanship instruction or for remedial work.

TITLE: DLM designs in perspective

NEMIC NO: 20-3-4-12-½-23 thru 25
CLASSIFICATION NO:

AUTHOR: Rogan, Laura L., &
Larson, Charlotte.

VENDOR: Developmental Learning Materials, 1971

GRADE RANGE: Pre-primary to 7 years

PRICE: $8.50

CONTEXT: Individual activity, with or without teacher supervision

TEACHER'S MANUAL: Paper brochure

CONTENTS AND DURABILITY: 30 plain 1" cubes made of finished hardwood with rounded edges. 24 design cards are printed in 6 colors with black outlines on tough tag stock 8-3/4" x 7½" and varnished. 3 sets of design cards for plain inch cubes.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Colored Inch Cubes, Plain Inch Cubes, and the Design Cards' objectives are to help the child a) become aware of how his view of the surfaces of an object changes according to his position in relation to the object; b) realize that sometimes only one or two surfaces are

TITLE: DLM designs in perspective NEMIC NO: 20-3-4-12-½-23 thru 25

Statement of Purpose (Cont'd)

visible and that three is the maximum number that can ever be seen at the same time; c) become aware of the methods by means of which three-dimensionality is represented on a flat surface; d) become aware of other aspects of perspective in the real world, in photography, and in drawing. The Designs in Perspective are planned to present new and progressively more difficult problems for the learner. The problems presented are the following: a) increasing the number of blocks; b) opposite views of the same structure; c) perceiving an illusion of depth on a flat surface; d) perceiving the position of a block relative to another block; e) assuming the presence of hidden blocks.

TITLE: DLM familiar sounds
rhythm band

NEMIC NO: 20-2-6-2-½-31
20-2-6-2-½-28
CLASSIFICATION NO:

GRADE RANGE: Pre-primary and primary

CONTEXT: Teacher-classroom, or small group within a classroom

VENDOR: Developmental Learning Materials, 1971
PRICE: Familiar Sounds = Reel $4.25, Cassette $4.25
Rhythm Band = Reel $3.25, Cassette $3.25

TEACHER'S MANUAL: No

CONTENTS AND DURABILITY: Reel or cassettes

PROGRESS: Teacher's evaluation of student's progress

STATEMENT OF PURPOSE: Familiar Sounds--this tape contains 50 familiar sounds such as a man's voice, a woman's voice, a child's voice, a dog barking, a bell ringing, etc. The tape is used in conjunction with 50 flash cards and its purpose is to teach sound skills and identification. Rhythm Band--rhythm band instruments make a good source for teaching sound discrimination. This tape provides a prerecorded series of instruments and patterns providing a ready-made exercise in sound identity and discrimination. Matching of sounds may also be taught by having the students match the tone with an identical instrument.

TITLE: DLM large parquetry & large parquetry designs

NEMIC NO: 20-3-3-12-½-34 thru 35
CLASSIFICATION NO:

GRADE RANGE: Pre-primary, primary

CONTEXT: Teacher-classroom; teacher-small group within classroom; individual pupil

VENDOR: Developmental Learning Materials, 1971
PRICE: $2.50 Large Parquetry
$3.75 Large Parquetry Designs

TITLE: DLM large parquetry & large parquetry designs

NEMIC NO: 20-3-3-12-½-34 thru 35

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: Large Parquetry consists of 32 blocks in the six primary colors. The shapes are square, diamond and triangle. They are made of finished hardwood with safe rounded edges and non-toxic colors. The blocks are large and easy to handle. Large Parquetry Designs consists of 22 large design cards printed in six colors on tough tag stock and varnished.

PROGRESS: Pupil's response

STATEMENT OF PURPOSE: The Large Parquetry blocks, in conjunction with Large Parquetry Designs, have been used with good results in the teaching of children with minimal brain dysfunction whose visio-motor skills and ability to give attention were undeveloped. They help the child to a) become aware of the relationship between an actual physical reality and its representation; b) develop task organizing; c) develop spatial relationships; d) develop the ability to mentally "hold" a foreground figure (one block) apart from background of many blocks. The Designs also help the child to a) learn form identity; b) perceive that form remains the same despite varying color; c) perceive discriminatingly at one time several characteristics of a stimulus object, in this case color, shape and orientation in space; d) perceive with accuracy the relationship of adjoining forms, i.e., identify the points and edges of contact.

TITLE: DLM stencils

NEMIC NO: 20-3-4-12-½-26 thru 29
CLASSIFICATION NO:

GRADE RANGE: Pre-primary, primary

VENDOR: Developmental Learning Materials, 1971

CONTEXT: Teacher-classroom;

PRICE: $3.50 for each set of stencils

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: 12 stencil boards made of thick super-board, 8½" x 8½" and faced on two sides with white poly; in each set the stencil (background) and the figure (foreground) are included. 2 sets Farm and Transportation Stencils, 2 sets Shapes Stencils, 2 sets Animal Stencils, 2 sets Seasonal Stencils.

PROGRESS: Pupil's response

STATEMENT OF PURPOSE: To provide early success experience--to provide a 1) task; 2) goal; 3) known procedure; and 4) perfect execution. The stencil is used as a background and may be placed on a colored sheet of paper and colored in or painted.

TITLE: DLM stencils

NEMIC NO: 20-3-4-12-½-26 thru 29

Statement of Purpose (Cont'd)

Object Stencils provides training in the visual-motor skills.
Shapes Stencils helps to teach the form of basic geometrical shapes and provides child with motor-kinesthetic and visual experience of crayoning a line up and down, across, and in slanting directions. The shapes stencils may also be used effectively to help the child relate tactual and kinesthetic experiences to visual ones.
Seasonal Stencils provides a primary art experience and may be used at holiday time to decorate greeting cards, etc. Helps child to become more adept at drawing and cutting.

TITLE: Dubnoff school program/2: directional-spatial pattern board exercises

NEMIC NO: 20-3-3-5-½-39
CLASSIFICATION NO:

AUTHOR: Dubnoff, Belle.

VENDOR: Teaching Resources, 1970
PRICE: $34.00

GRADE RANGE: Children with learning disabilities and slow learners. Effective at kindergarten, primary and special class levels.

CONTEXT: Structure of program allows choice of independent student performance or class group performance.

TEACHER'S MANUAL: Instructor's Guide

CONTENTS AND DURABILITY: Wooden pattern board complete with permanent brass pegs and bottom suction cups. 135 rubber bands in red, blue, yellow, black and white in 4 sizes from 1¼" to 3½". 160 color-coded pattern cards consisting of 5 levels: Level 1 = 93 pattern cards; Level 2 = 37 pattern cards; Level 3 = 12 pattern cards; Level 4 = 11 pattern cards; Level 5 = 7 pattern cards. One duplicating master each, of blank field dots, one a left hand, the other a right hand. One page of 6 sample patterns and one sample page of blank field dots. An orientation set which includes 50 "L" and 50 "R" adhesive labels, 3 directionality charts, 3 push pins, a left-hand card and a right-hand card.

PROGRESS: Child progresses at own rate. Teacher evaluation.

STATEMENT OF PURPOSE: Aid in the training of spatial and directional orientation as well as other necessary skills. Exercises will aid in developing coordinated control of both hands simultaneously, as well as firm finger grasp and awareness of finger position. These skills are necessary for mastery of the normal activities which are expected of the child, and also such specific skills as tying shoes and fastening buttons.

TITLE: Dubnoff school program/2: directional-spatial pattern board exercises

NEMIC NO: 20-3-3-5-½-39

Statement of Purpose (Cont'd)

Introduced with Orientation Program which provides preliminary exercises in directionality, sequential concepts and group training. The child is initially taught to proceed from left to right and top to bottom, which is basic to successful reading and writing.

TITLE: Early to read--initial teaching alphabet

NEMIC NO: 20-1-12-2-52 thru 108
CLASSIFICATION NO:

AUTHOR: Pitman, Sir James

VENDOR: Initial Teaching Alphabet Publications, Inc., 1965-66
PRICE: $78.00

GRADE RANGE: Introduced 6th month of kindergarten or 1st month of 1st grade.

CONTEXT: Individual/group

TEACHER'S MANUAL: Phase I, II, III--Teacher's Guide for each classroom
Library Set I, II, III, IV--Teacher's Guide for each.
Phase I = 6 sets, softcover
2 sets, hardcover
Phase II = 2 sets hardcover
2 sets softcover
Phase III = 2 sets softcover
2 sets hardcover
Classroom Library I, II, III, IV: 38 hardcover small books (should be 40)
7 sets Teacher's Guides.

PROGRESS: Methods and materials of instruction adapted to learning rate of child--each child encouraged by teacher to proceed according to abilities and interest--program should be completed in a year.

STATEMENT OF PURPOSE: The Early-To-Read i/+/a Program is a phonemic system. The learner starts on an alphabet with a one-to-one relation between sound and written character, in which the child associates each of the alphabet's 44 characters with one sound and one sound only. Through experience stories early in the program, the child learns that written language represents speech, and at the same time he begins to acquire a sight vocabulary. The program proceeds to simple stories with gradually increased vocabularies. Breakdown of the program is accordingly:
PHASE I = BASIC SKILLS
Set 1 of Library Books accompany
)Book 1A Rides--introduces a,u,t,e,b,s,r
)Book 1B Dinosaur Ben--introduces i,a,l,th,oe,o,m,c
)Book 1C Houses--introduces v,p,ae,ee,f,w,u,r,ie,h,k,au
Set 2 of Library Books accompany
)Book 2 A Game of Ball
)Book 3 The Yo Yo Contest--Workbook to accompany Books 2 & 3
Introduces g,y,ou,a,j,wh,ue,oi

TITLE: Early to read--initial teaching alphabet

NEMIC NO: 20-1-12-2-52 thru 108

Statement of Purpose (Cont'd)

PHASE II = EXTENDING AND DEVELOPING SKILLS

Set 3 of Library Books accompany
Set 4 of Library Books accompany

Book 4 Find a Way
Workbook to accompany Book 4
6 experience stories; long & short vowels; compound words; contractions; plurals; inflection of verbs; possessives

Book 5 The Trick--Workbook to accompany Book 5. Inflectional changes in verbs; use of the apostrophe; 6 experience stories; plurals; nouns; word endings; comprehension exercise; adjectives; pronouns; long and short vowels; compound words; syllables; synonyms and antonyms.

PHASE III = SPELLING AND TRANSITION TO REGULAR ALPHABET

Set 5 of Library Books accompany

Book 6 The Bear that Moped--Workbook accompanies Book 6 & 7

Book 7 Mr. Pickle's Surprise--Words; patterns in traditional orthography.

TITLE: Erie program/1: perceptual-motor teaching materials

NEMIC NO: 20-3-3-5-2-5
CLASSIFICATION NO:

AUTHOR: Hatton, D.

VENDOR: Teaching Resources Inc., 1970

GRADE RANGE: Pre-primary and primary; special class levels.

PRICE: $77.00 complete kit

CONTEXT: Instructor, 6 pupils. Materials correspond to the normal maturational sequence expected to occur prior to formal scholastic training. May be used diagnostically to help determine a child's mastery of basic perceptual-motor skills. Parents may find this program useful at home.

TEACHER'S MANUAL: Instructor's Guide--one softcover, vinyl-coated

CONTENTS AND DURABILITY:

Series 1 = 5 game boards, heavy cardboard
3 stimulus devices (a die, a two-sided spinner, and cloth bag containing 8 tactile pieces)

Series 2 = 6 Bingo booklets
stimulus cards in sturdy, vinyl-covered looseleaf easel binder

Series 3 = 6 two-section booklets of worksheets with bound-in templates
6 wood-cased erasers

Series 4 = 5 decks of cards of geometric shapes
4 decks of cards of domino pictures

TITLE: Erie program/1: perceptual-motor teaching materials

NEMIC NO: 20-3-3-5-2-5

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The Erie Program of Perceptual-Motor Teaching Materials consists of 4 units, the contents of all being those of geometric forms.
UNIT #1 is a series of perceptual-motor exercises designed to be used on an individual pupil basis under teacher supervision. This Unit provides practice in form discrimination, using color to help the child progress from the simplest type of form discrimination to higher levels. Also incorporated in this Unit are 9 different and related perceptual-motor skills, e.g., form discrimination; using color cues, without color cues, with discordant colors; figure-ground disturbances; form constancy and incomplete forms; grasp and release; eye and hand coordination.
UNIT #2 = Perceptual Bingo. A series of exercises presented in booklet form arranged in 6 levels of difficulty, with 3 exercises at each level, from simple form discrimination to form conceptualization. A cue-card bearing a form identical with or similar to one or more on the child's exercise page is displayed. The object of this exercise is to have the child cross out any one, but not more than one, like or near like form.
UNIT #3 = Visual-Motor Template Forms. Using the pencil eraser which provides the child with greater feedback, the child traces the figures of the template--circle, triangle, square--giving him practice in left-to-right sequencing. The child then progresses to tracing the figures in a clockwise, counterclockwise position. In Exercise 3, the child is required to finish partially outlined figures, and finally to reproduce the figures without aid.
UNIT #4 = Perceptual Card and Dominoes Games. The perceptual card games consist of 5 decks of cards which progress in difficulty from deck 1 which provides practice in simple form recognition to deck 5 which provides practice in complex form recognition. Colored cards are used here for the purpose of providing a distraction to the child. The Dominoes Game requires the child to match the halves of figures on cards he is holding with corresponding halves on the play area. Here, colored cards are used as an aid.

TITLE: Fairbanks-Robinson program/1: perceptual-motor development

NEMIC NO: 20-3-3-5-2-6
CLASSIFICATION NO:

AUTHOR: Fairbanks, Jean., Robinson, Janet.

VENDOR: Teaching Resources Corp., 1970
PRICE: $79.00

GRADE RANGE: Kindergarten & 1st grade, special education classes, older students below average in basic skills

TITLE: Fairbanks-Robinson program/1: perceptual-motor development

NEMIC NO: 20-3-3-5-2-6

CONTEXT: Use: maximum of two children at a given time, direct supervision of teacher or clinician

TEACHER'S MANUAL: Instructor's Guide

CONTENTS AND DURABILITY: Good condition: 1 set tactile materials & perceptual-motor development kit: 2 tracing boards with heavy acetate covers, 1 set of 4 blue crayons, 1 spatial relations stimulus book.

PROGRESS: Child works at own rate of progress.

STATEMENT OF PURPOSE: Basic form tasks to develop those perceptual-motor abilities regarded as prerequisite to academic functioning. Designed for children performing below expectancy because of minimal central nervous system impairment, mild emotional disturbance or simple developmental lag. Age not a factor.
Section A: Lines, movement exercises (23 levels); Section B: Shapes, recognition and discrimination (21 levels); Section C: Coloring exercises (23 levels); Section D: Cutting exercises (16 levels); Section E: Spatial orientation (24 levels); Section F: Constancy of form and size (24 levels); Section G: Figure-ground discrimination (21 levels); Section H: Spatial relations Part 1 (24 levels); Section I: Spatial relations Part 2 (18 levels); Section J: Spatial relations presented in puzzle form (6 levels).

TITLE: First talking alphabet, part 1--consonants
First talking alphabet, part 2--vowels

NEMIC NO: 20-1-1-12-2-141
20-1-1-12-2-142
CLASSIFICATION NO:

AUTHOR: McMillan, C., & Gonzalez, R.

VENDOR: Scott, Foresman, and Company, 1970-71

GRADE RANGE: Pre-primary, primary

PRICE: Talking Alphabet Part 1--$42.00
Talking Alphabet Part 2--$39.00

CONTEXT: Individual/group instruction

TEACHER'S MANUAL: Instruction Booklet for Part 1, Instruction Booklet for Part 2.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The purpose of the First Talking Alphabet which includes recordings and full-color picture cards for consonants (Part 1) and vowels (Part 2) is to help the teachers intensify each child's awareness of sounds and the letters that represent them. Part 1 includes 20 records and 20 copies each of 20 cards. Part 2 includes 29 records and 20 copies each of 17 cards.

TITLE: Fitzhugh plus program (Revised Edition)

NEMIC NO: 20-3-3-9-22
CLASSIFICATION NO:

AUTHOR: Fitzhugh, Kathleen., & Fitzhugh, L.

VENDOR: Allied Education Council, 1970
PRICE: $16.00 complete set: Teacher's Manual, Placement Guide, 9 Workbooks

GRADE RANGE: Pre-primary, primary, reading readiness

CONTEXT: Teacher/classroom

TEACHER'S MANUAL: Yes

PROGRESS: Placement Guide, Teacher's Manual--provides correct responses to students' workbook activities.

STATEMENT OF PURPOSE: The Fitzhugh PLUS Program was developed to provide classroom materials for children with learning disabilities. The 9 workbooks incorporate an effective self-teaching process for individualized learning. This program was designed as a supplementary curriculum and therefore should be used in conjunction with other materials and techniques. These programmed workbooks were developed and tested for students that are: brain damaged, culturally deprived, deaf (and other hearing problems), dyslexic, emotionally disturbed, mentally deficient, partially sighted, or slow learners. This programmed or problem-oriented approach is designed to offer continuing repetition to reinforce the learning process. The gradual increase in level of difficulty insures the student's success and thus provides constant motivation. The learner works at a pace commensurate with his ability, freeing the teacher's time to instruct those students needing personal assistance. This format individualizes instruction to the student's particular learning behavior patterns. For diagnostic teaching, the program provides the necessary format to ensure the student reaching specific learning goals that will help achieve learning requirements. The Placement Guide and Teacher's Manual provides an instrument for the teacher to ascertain the learner's precise deficiencies so he may be accurately placed within the program. Another feature of the materials is the Plus Marker. This marking instrument is used by the student to indicate his responses. The ink in the correct response is treated in such a way that when the yellow line made by the Plus Marker crosses this ink, the line turns green. If any other response is marked, the Plus Marker leaves a yellow line that will indicate to the teacher that the incorrect response was marked initially. This instantaneous feedback to the learner is a tremendous motivational force as he knows immediately whether or not he has marked the correct response. Listed are the 9 books in the program, including the skills and subject matter covered in each.

BOOK NO.	TITLE
101	SHAPE MATCHING = Spatial Organization Series (visual acuity, discrimination and memory. Left-to-right eye movement,

TITLE: Fitzhugh plus program (Revised Edition) NEMIC NO: 20-3-3-9-22

Statement of Purpose (Cont'd)

BOOK NO.	TITLE
	image discrimination, matching shapes, figure rotation and size variations). No verbal participation.
102	SHAPE COMPLETION = Spatial Organization Series (visual-motor memory and fine muscle coordination. Figure completion exercises enhancing kinesthetic development). No verbal participation. Plus Marker not used in this book.
104	SHAPE ANALYSIS AND SEQUENCING = Spatial Organization Series (visual acuity, discrimination, memory, coordination and pursuit, figure-ground differentiation, memory, coordination, manipulation. Figure interpretation, figure analysis and time-sequencing).

TITLE: Following directions and sequence NEMIC NO: 20-3-3-12-2-72
CLASSIFICATION NO:

AUTHOR: Venditti, F., & Murray, Evelyn. VENDOR: Milliken Publishing Co., 1970

GRADE RANGE: Pre-school, kindergarten, readiness

CONTEXT: To be used with a class as a transparency presentation, the class following the teacher with their own (duplicated) worksheets.

TEACHER'S MANUAL: Introduction (6 pp.)

CONTENTS AND DURABILITY: A softbound book of twelve plastic transparencies and 28 heavy paper spirit duplicating pages.

PROGRESS: Teacher's evaluation of pupil's worksheets

STATEMENT OF PURPOSE: To teach following directions, specifically to listen attentively, to listen with understanding, to follow directions in sequence, to understand specific directional terms, to adjust to different situations and different people giving directions, and to react appropriately to directions; to teach sequence, specifically to remember what has been read, to keep ideas and events in a logical order, to relate events heard or viewed in their proper order, and to follow out simple oral directions, especially in everyday life situations. Exercises are detailed in the introduction, but teacher innovation is encouraged.

TITLE: Follow through with sounds

AUTHOR: McCarthy, Jeanne McR., &
Knowledge Aid

GRADE RANGE: Developmental program for kindergarten and the primary grades. A remedial program for the EMH (educable mentally handicapped) TMH (trainable mentally handicapped), culturally disadvantaged, partially sighted, hard of hearing, socially maladjusted, slow learners, speech disabilities.

NEMIC NO: 20-4-1-12-2-33
CLASSIFICATION NO:

VENDOR: Radiant Educational Corporation, 1968
PRICE: $49.50 per set

CONTEXT: Individual/group; need tape player/recorder.

TEACHER'S MANUAL: Teacher's Guide (see Contents)

CONTENTS AND DURABILITY: Indoor-Outdoor: a Teacher's Guide offers instructional notes and lesson plans which deal with the sounds that one normally hears in his or her environment; 8 lessons on indoor sounds (sounds in the home); 8 lessons on outdoor sounds (door slamming, roller skates, sonic boom, etc.). The sounds are included on the 5" tape and depicted on an overhead projection transparency as well as the stimulus cards. Classroom--Rhythm Band Unit: The Teacher's Guide offers instructional notes and lesson plans which deal with sounds in the classroom = 8 lessons (school bell, footsteps, closing of door, pencil sharpener, scissors cutting, etc.). An additional 8 lessons help to demonstrate specific psycholinguistic skills as they relate to rhythm band sounds. The sounds are included in a 5" audio tape and objects are depicted on an overhead projection transparency as well as on the stimulus cards used by the students.

PROGRESS: Teacher's evaluation of pupil's response recorded on acetate-covered study prints.

STATEMENT OF PURPOSE: The two multi-media learning kits, "Indoor/Outdoor Sounds" and "Rhythm/Classroom Sounds", are based on the established theory that a child's ability to develop linguistic skills--listening, speaking, reading--is closely related to his psychological history. Therefore, a highly structured, multi-sensory approach is employed in order to achieve the development of auditory and visual perception skills in exceptional children and to develop confidence in their abilities to understand and perceive the relationships between sounds and their sources. The tasks presented in this particular program involve six cognitive functions which are prerequisite to learning a phonetic method of reading: auditory perception, auditory discrimination, sound recognition, auditory decoding, intersensory integration, and immediate rote memory for auditory stimuli.

TITLE: Frostig program for the development of visual perception

NEMIC NO: 20-3-3-12-½-37
CLASSIFICATION NO:

AUTHOR: Frostig, Marianne., & Horne, D.

VENDOR: Follett Educational Corporation, 1964
PRICE: $1.98 each

GRADE RANGE: Pre-primary- primary; beginning, intermediate, and advanced levels.

CONTEXT: Teacher/classroom, group within classroom, individual child with or without supervision

TEACHER'S MANUAL: One Teacher's Guide for each level

CONTENTS AND DURABILITY: 4 copies each: 80 perforated page soft-cover vinyl-coated student workbook--beginning. 112 perforated page soft-cover vinyl-coated student workbook--intermediate. 128 perforated page soft-cover vinyl-coated student workbook--advanced. Transparent acetate overlays available.

PROGRESS: Each book contains an individual record sheet on which the teacher can keep track of the pupil's progress and see at a glance which, if any, of the five areas of visual perception the child is having difficulty with.

STATEMENT OF PURPOSE: To develop the five vital visual perceptual skills:

a) Perception of position in space--child's recognition of the formation and directionality of figures and characters, e.g., to distinguish a 3 from E.
b) Perception of spatial relationships--child's ability to perceive positional relationships between various objects or points of reference, e.g., order of letters in a word.
c) Perceptual constancy--child's perception and identification of forms, regardless of differences in size, color, texture, position, background or angle of viewing, e.g., $3 = 3+2 = 5$.

$$\begin{array}{r} +2 \\ \hline 5 \end{array}$$

d) Visual-motor coordination--help child develop printing, writing, drawing skills, e.g., tracing, reproducing basic strokes used in printing.
e) Figure-ground perception--isolation and recognition of overlapping, intersecting, or hidden figures, figure completion, and reversals of figure and ground. Ability to identify relevant stimuli from distracting backgrounds, e.g., using a dictionary.

The Frostig Program achieves these goals through: physical exercise--body image concept; three-dimensional activities--in, over, around, above concept; paper and crayon exercises--tracing.

TITLE: Handwriting with write and see

NEMIC NO: 20-2-4-12-2-10
CLASSIFICATION NO:

AUTHOR: Skinner, B.F., & Krakower, Sue-Ann.

VENDOR: Lyons and Carnahan, 1968
PRICE: $1.05/book; $2.25/set

GRADE RANGE: Flexible series--used when needed, rather than by grade level.

CONTEXT: Individual student in group basis

TEACHER'S MANUAL: Yes

CONTENTS AND DURABILITY: 1-6 softbound workbooks
1-6 Teacher's Editions--spiral paper bound
Alphabet Wall Cards: Manuscript, Cursive

PROGRESS: Individual progression--teacher encouragement

STATEMENT OF PURPOSE: A programmed and individualized approach to handwriting which gives the student an immediate feedback as to the accuracy of his responses. Each learning segment is presented in small sequential steps, advancing from the simplest to the most challenging; the pupil can evaluate, correct and proceed by himself at his best rate. The material is built on the basic principles contributed by B.F. Skinner. (These are reported in his book, The technology of teaching, 1968.) The pages of the pupil books are treated so that markings from the special pen cause a reaction on the paper; a gray color indicates that the answer or response is correct, and a yellow color indicates that the answer is incorrect. The program offers the choice of manuscript to cursive transition in either Book 2 or Book 3. The Teacher Editions offer helpful highlights for the teacher, and these are printed in red on replicas of the "pupil pages". Included, also, are suggested activities to accompany each skill section.

TITLE: Help yourself to better writing

NEMIC NO: 20-2-4-12-2-7
CLASSIFICATION NO:

AUTHOR: Emerson, Dorothy.

VENDOR: Educators Publishing Service, 1970
PRICE: $1.50

GRADE RANGE: Used with introduction of cursive script, not necessarily as to grade range

CONTEXT: Individual

TEACHER'S MANUAL: Self-teaching

CONTENTS AND DURABILITY: Softbound workbook

TITLE: Help yourself to better writing

NEMIC NO: 20-2-4-12-2-7

PROGRESS: Individual rate of progression

STATEMENT OF PURPOSE: May be used by the student as a self-teaching guide, or by the teacher as a basis for lesson plans in penmanship. Simultaneous instruction for both right- and left-handed children. On the right side of each facing page is the lesson for left-handed students; on the left side, the lesson for right-handed students. Instructions are clear, simply worded, and to the point. The guide is suitable for use whenever cursive script is to be introduced, be it in first or third grade.

TITLE: Instructo activity kits

NEMIC NO: 20-3-1-12-2- (3 and 6)
20-10-1-12-2-7
20-9-1-12-2- (12 and 19)

AUTHOR: Instructo

CLASSIFICATION NO:

GRADE RANGE: Pre-school and primary grades

VENDOR: Constructive Playthings, 1970

CONTEXT: Individual and/or group instruction

PRICE: $29.40 complete series

TEACHER'S MANUAL: No

CONTENTS AND DURABILITY: Included in Statement of Purpose

PROGRESS: Teacher's evaluation of student

STATEMENT OF PURPOSE: Kits which provide multisensory stimuli for the teaching and learning of basic readiness concepts. 1) Creating Stories: Develops oral language skills, creativity and storytelling ability. Over 50 stand-up illustrations of interesting original story characters, background scenery, animals, plus an equivalent number of plastic stands. 2) Discovering Opposites: Develops meaning of opposites and reinforces learning as child pairs illustrations of "opposites" on the correct card. Geometric shapes guide child to correct card. Contains 8 large opposite concept cards and 24 illustrations of opposite concepts on 48 smaller cards. 3) A Day at the Zoo: Develops oral language skills, classification skills. Children classify animals and background settings, review a trip to the zoo, and make up stories about favorite animals. Contains over 35 stand-up illustrations of animals, backgrounds, cages, trees, bushes, rocks, and foods, plus plastic stands. 4) Seasons: Fall and Winter: Children create and change 4 scenes from season to season in each kit. 5) Seasons: Spring and Summer: Trees "grow" buds, leaves, or fruit; children "change" clothes, and "grass", "leaves", or "snow" cover the ground. Materials for an in-depth study of each season are provided. Over 40 illustrations plus plastic stands in each set. 6) The Classification Game: Interiors of a pet shop, clothing store, toy store, and food market give context clues for classifying 48 picture cards. Each stand-up store

TITLE: Instructo activity kits

NEMIC NO: 20-3-1-12-2- (3 and 6)
20-10-1-12-2-7
20-9-1-12-2- (12 and 19)

Statement of Purpose (Cont'd)

interior is complete with a "floor", divided into 12 squares for the appropriate picture cards.
7) My Home and Family: White/Negro: Activities for dramatization and role playing. Contains 40 illustrations of family members, pets, scenery for living room, kitchen, and bedroom, and plastic stands.

TITLE: Judy's friends

NEMIC NO:
CLASSIFICATION NO:

GRADE RANGE: Pre-primary to primary

CONTEXT: Individual/teacher and/or group/teacher

VENDOR: The Judy Company, General Learning Corp., 1967
PRICE: $3.75

TEACHER'S MANUAL: No

CONTENTS AND DURABILITY: 17 wood-cutout figures with small removable base.

PROGRESS: Teacher's evaluation of student's progress

STATEMENT OF PURPOSE: Set of 17 wood-cutout figures, each with a small removable base, representing many ethnic groups. Used for oral language development through encouragement of creative and dramatic expression.

TITLE: Language development experiences for young children

NEMIC NO: 6-1021
CLASSIFICATION NO:

AUTHOR: Engel, Rose C., Reid, W.R., & Rucker, D.D.

VENDOR: Special Education Instructional Materials Center, 1968
PRICE: $28.80

GRADE RANGE: Pre-primary to primary

CONTEXT: A curriculum guide for teachers

CONTENTS AND DURABILITY: 1 hardbound book

PROGRESS: Teacher's evaluation of student's progress

STATEMENT OF PURPOSE: A compilation of language development experiences for young children which includes some suggested scales for the evaluation of language development. Each suggestion has an enumeration of materials needed to effectively carry out the activity. Experiences are classified

TITLE: Language development experiences for young children

NEMIC NO: 6-1021

Statement of Purpose (Cont'd)

according to art, cooking, daily procedures, dramatic play, messy, motor, music, science, sensory (feeling, hearing, seeing, smelling, tasting), story time, trips, water play and other small group activities. There are suggestions of references for teachers as well as a list of books for children.

TITLE: Language lotto

NEMIC NO: 20-2-5-12-½-13-18
CLASSIFICATION NO:

AUTHOR: Gotkin, L.G.

GRADE RANGE: Primary to elementary levels

VENDOR: Appleton-Century-Crofts, 1969-70
PRICE: $43.50 complete series

CONTEXT: Individual or small group activity--initial teacher supervision

TEACHER'S MANUAL: One copy for each set

CONTENTS AND DURABILITY: 6 sets: Objects, Actions, More Action, Compound Sentences, Prepositions, Relationships

PROGRESS: Chart, Checklist provided

STATEMENT OF PURPOSE: A series of 6 boxed sets of materials including picture boards with matching individual pictures. The materials are programmed so that visual discrimination (matching) is the first process utilized, then receptive language (finds picture on the basis of verbal description), and finally expressive language (ability to verbalize correctly) on the part of the pupils.

TITLE: Language rehabilitation program, aphasia

NEMIC NO: 20-2-2-9-2-108
CLASSIFICATION NO:

GRADE RANGE: All grades of aphasic persons

VENDOR: Bell and Howell Company, 1970
PRICE:

CONTEXT: Should be used under supervision of competent speech pathologist as daily therapy routine for patient or patients.

TEACHER'S MANUAL: Usage Manual

TITLE: Language rehabilitation program, aphasia NEMIC NO: 20-2-2-9-2-108

CONTENTS AND DURABILITY: 65 pre-recorded jumbo cards--Part II
54 pre-recorded standard cards--Part I and II
50 flip tabs--Part I and II
20 blank cards
score sheets
Program Organizer File

PROGRESS: Score sheets included

STATEMENT OF PURPOSE: The purpose of the Aphasia Program is to help aphasic persons (persons impaired in recognition of language) to elicit spoken and written responses.
Part I--Naming Numbers, and Part II--Naming Objects are independent, related programs of instruction. But unlike most instructional programs which are designed for normal individuals, these programs are quite flexible and very much subject to clinical control. The relative lack of structure was planned into the programs, so that the speech pathologist or speech therapist might find them useful for the widest possible range of phasic subjects.

TITLE: Language training for adolescents NEMIC NO: 20-2-1-12-3-20 thru 22
CLASSIFICATION NO:

AUTHOR: Bywaters, Dorothy M. VENDOR: Educators Publishing Service, 1971

GRADE RANGE: 3 ranges of difficulty--assigned according to degree of "specific reading disability". PRICE: $6.54

CONTEXT: Individual/group

TEACHER'S MANUAL: No

CONTENTS AND DURABILITY: 3 spiral soft notebooks, each containing lessons of a specific level of difficulty.

PROGRESS: Instructor determines progress.

STATEMENT OF PURPOSE: Curriculum outlines language training for adolescents with dyslexia, provides for a therapist material which she can introduce according to the age and disability of the student(s). Material is categorized within a lesson plan structure, and based upon language development.

TITLE: Learning the letters

NEMIC NO: 20-1-2-9-2-49
CLASSIFICATION NO:

AUTHOR: Gifford, Margaret.

VENDOR: Educators Publishing Service, 1971
PRICE: $1.50 set of six

GRADE RANGE: Pre-primary, primary

CONTEXT: Class/individual

TEACHER'S MANUAL: Instructions provided at beginning of each booklet.

CONTENTS AND DURABILITY:
Book 1 = a,b,s,m,t,l,i.
Book 2 = h,e,th.
Book 3 = r,ee,er,o,s,bl,br,sl,st,thr,tr,ble,tle.
Book 4 = c,k,f,p,w,y,ch,wh.
Book 5 = g,u,n,j,v,x,z,oo.
Book 6 = d,q,ing,ang,ong,ung,ink,ank,onk,unk.

PROGRESS: Teacher's evaluation of pupil response

STATEMENT OF PURPOSE: A series of eix illustrated booklets, 5-3/8" x 8-3/8", designed as an aid in the teaching of the alphabet, individual sounds, common blends, and silent letters. Instructions provided at the beginning of each booklet are followed by a dictionary page, exercises, "reading pages", and a review word list.

TITLE: Left-handed writing

NEMIC NO: 20-2-4-12-2-1
CLASSIFICATION NO:

AUTHOR: Gardner, W.

VENDOR: Interstate Special Education Series, 1958
PRICE: $ .60

GRADE RANGE: Rehabilitation: adult, children in grades 1-3

CONTEXT: Individual/group

TEACHER'S MANUAL: No; instructions within manual

CONTENTS AND DURABILITY: Softbound instruction and workbook manual

PROGRESS: Individual rate

STATEMENT OF PURPOSE: This manual may be used as a guide and source of technique and demonstration for instructing the left-handed writer. The lessons stress position of the paper, development of a uniform slant, and forward flow of writing and muscular movement at the fourth-grade level. Recommended for adults who have developed ineffieient writing habits, or who have lost the use of the right hand.

TITLE: Legible print writing

NEMIC NO: 20-2-4-12-4-5
CLASSIFICATION NO:

GRADE RANGE: Kindergarten; early 1st grade

VENDOR: Zaner-Bloser Co., 1950
PRICE: $2.95

CONTEXT: Group/individual instruction

TEACHER'S MANUAL: Curriculum Guide

CONTENTS AND DURABILITY: Softbound workbook

PROGRESS: Individual rate

STATEMENT OF PURPOSE: A workbook written specifically for business people, but readily adaptable as a guide and practice book for the teacher who wants to improve her own printing. The worksheets can also be adapted and mimeographed so that late kindergarten and early first graders may begin to perfect their printing skills.

TITLE: Let's listen

NEMIC NO: 20-2-6-2-12-12
CLASSIFICATION NO:

AUTHOR: Bolgen, D.P.

VENDOR: Educational Activities, Inc., 1970
PRICE: $4.98

GRADE RANGE: 1-3

CONTEXT: Individual/group instruction

TEACHER'S MANUAL: Teacher's Guide included

CONTENTS AND DURABILITY: 1 12" 33-1/3 rpm record

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Ear training by encouraging proper listening habits through the use of familiar sounds. The record enhances sound awareness by imitation and listening games and finally leads to music awareness in which the sounds of glasses, bottles, etc. are used for making up rhythmic patterns and songs.

TITLE: Let's play hide and seek

NEMIC NO: 20-2-1-12-2-60
CLASSIFICATION NO:

AUTHOR: Fitzsimons, Ruth, & Murphy, A.T.

VENDOR: Expression Co., 1968
PRICE: $6.00

GRADE RANGE: Primary grades, ages 6-9

TITLE: Let's play hide and seek NEMIC NO: 20-2-1-12-2-60

CONTEXT: To be used individually, by therapists and/or clinicians.

TEACHER'S MANUAL: One manual

CONTENTS AND DURABILITY: One 14" x 17" spiral-bound book of monochromatic pictures with a hard cover. One paper-covered, spiral-bound teacher's manual. There are eleven pictures, each illustrating exercises for one speech sound. Pictures can be mounted, as if on an easel.

PROGRESS: It offers immediate rewards for correct responses since it is used individually and those results are the end product of the game (hide and seek).

STATEMENT OF PURPOSE: This therapeutic activity is designed for use by speech and hearing clinicians. It provides practice in speech (lip) reading for the hard-of-hearing child and experiences for the child who has an articulation problem. Using the auditory, visual and tactile sensory clues, the child is called upon to respond motorifically, visually and orally. The child must find the hidden f,v,sh,th (voiced and voiceless), l,s,z,r,ch and j sounds hidden in the large, high-interest, watercolor illustrations. Various game exercises detailed in the manual accompany each illustration.

TITLE: Let's read: a linguistic approach

AUTHOR: Bloomfield, L., & Barnhart, C.L.

GRADE RANGE: Grades 1-4

CONTEXT: Teacher/classroom or teacher/small group

TEACHER'S MANUAL: Teachers' Manuals
CONTENTS AND DURABILITY: All in paperback

Readers 1-9
Workbooks 1-9

NEMIC NO: 20-1-1-12-1-73
CLASSIFICATION NO:

VENDOR: C.L. Barnhart, Inc., 1970
PRICE: Let's Read Readers 1-6 = $1.20 ea.
Let's Read Reader 7 = 2.00 ea.
Let's Read Reader 8 = 2.20 ea.
Let's Read Reader 9 = 2.36 ea.
Let's Look at the ABC's Workbooks .64 ea.
Teacher's Manual 1.20 ea.

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TITLE: Let's read: a linguistic approach NEMIC NO: 20-1-1-12-1-73

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Let's Read is a systematic progression from the known to the unknown in which regular patterns of words are learned and tested before irregular patterns and irregular words are introduced. Practice with nonsense syllables.
Let's Read 1 contains monosyllables with a (as in cat) ending with the letters t,n,d,p,q,m,b,l,s.
Let's Read 2 contains monosyllables with i,u and words ending in g,n,d,t, b,m,p,f,s,c,l,z.
Let's Read 3 contains monosyllables with e,o and ending in t,n,d,g,s,l,b.
Let's Read 4 contains monosyllables beginning with s in combination with another consonant. Words beginning with sl,sn,sc,sk,sw, and sm,sp,st. Monosyllables with a,e,i,o.u beginning with r in combination with other consonants. Blends.
Let's Read 5 contains short vowel a,e,i,o,u monosyllables, with consonant clusters and digraphs. Words with s as the suffix; words ending in ff, ss,ll,dd,nn,zz,tt,gg,bb. Words beginning with wh; words ending in ck, tch; words beginning with qu (quit) and words ending with x.
Let's Read 6 contains monosyllables with ee in combination with consonants. Monosyllables with ea (sea). Monosyllables with oo (soon) and words ending with oo and oo in combination with a consonant. Monosyllables with ai (rain) in combination with a consonant. Monosyllables with ay (say). Monosyllables with oa (boat) in combination with a consonant. Words with ou (out); words having ow (how), aw (saw) au (haul). Words having oy (boy), oi (coin). Words ending in silent e (goose); words ending in s with silent e (goose); words ending in s with silent e (house). Words ending in z and x followed by silent e (axe). Words ending in v and d followed by silent e.
Let's Read 7 contains th (this), s with silent e (tease), s as suffix (peas), s as contraction, past tense, suffix d (did), ed (played). Words with d and ed having sound of t (tipped). Words with final e with sound of ee. Suffix ing; suffix er, or, ar, ert, ard; suffix le, al, (petal), el (panel), il (devil), ful (awful); suffix en, on, in, ain, our, em; contraction n't for not; suffix en,on,an (chairman), ain (captain); suffix y,ly,ie (Annie), cy. Inflected forms of words with suffix y (copies, copied); suffix ay (Sunday), e (maybe)
Let's Read 8 contains a with the signal e (game), s (hates), ed (hated), ing (hating), er (later), est (latest); ea (steak), are (care), ear (bear), ere (there), ary (canary), ayer (prayer); a (father, fast, ball, wash); o (log, coffee), o (go); o with silent e (nose); o (no); s (toes), ed and ing; a (ago); suffix er (closer); en (chosen). Compound words like backbone. o (old), ore (ore), oor (door), our (pour). i (bite) with silent e. Prefix a (alike), dis (dislike). Suffix y (unity), ie (pie), al (final). Words omitting final silent e (find). y (by); o (son), ou (young), oo (blood), u (put), oo (book). ir (fir), er (fern), or (work), ur (fur). u (cute), ew (few), ea (head), e (evil).
Let's Read 9 contains c as in cent, ending in ce (ice), g (gem), dg (dodge),

TITLE: Let's read: a linguistic approach

NEMIC NO: 20-1-1-12-1-73

Statement of Purpose (Cont'd)

silent k (knee), silent g (gnaw), silent w (wrap, sword, whole), silent b (dumb, debt), silent l (talk, half, halves, palm). Silent h (honor, scheme, ghost), silent t (soften, fasten), silent n (autumn), silent c (scent), silent th (clothes), silent gh (caught, high, dough); gh and ph having sound of f (rough, cough, laugh). Words with ph (Phillip); o and ou having sound of u (put); o,oe (shoe), ou (you), ui (juice), eau (beauty), iew (view); having sound of oo as in moon. Words with ui (build), u (busy), e (pretty), y (system), ie (sieve), a (spinach), having sound of i as in pin; ie (field), ei (receive), ey (key), eo (people), i (ski), all having sound of ee (beet); a (any), ai (again), ie (friend), ue (guest), eo (leopard) u (bury), having sound of e (let), ei (vein), a (German), ou (soul), ew (sew), having sound of o as in note; oa (broad), having sound of aw (saw); eye, uy (buy), ui (guide), i (island), ai (aisle), all with sound i (bite); ear (heart), uar (guard), having sound ar (car); ng (finger), g (get). Words with u before another vowel sometimes sounds like w (language); s (sure), ssi (Russia), ci (special), ce (ocean), ch (machine), ti (nation), all having sound of sh; xi (anxious), having sound of ksh. Words with s (treasure), si (occasion), g (rouge), all having sound of s; t (picture), having sound of ch; d (individual), di (soldier), having sound of j; x (exact), with sound gz. Words with silent letters (Wednesday).

TITLE: Lift-off to reading

NEMIC NO: 20-1-2-12-2-3-195
CLASSIFICATION NO:

AUTHOR: Woolman, M.

VENDOR: Science Research Associates, Inc., 1971
PRICE: 10 Cycle I Workbooks incl. test material $15.25
5 Cycle II Workbooks and 1 test booklet $9.52
2 Cycle III Workbooks and 1 test booklet $4.76
Teacher's Manual: Cycle I $5.20; Cycle II $3.44; Cycle III $2.88

GRADE RANGE: Any elementary grade level--for children who have poor motor-visual, verbal, perceptual skills.

CONTEXT: Small or large groups or with individuals

CONTENTS AND DURABILITY: Cycle I = set of 10 books: 10 student workbooks (including test material); 1 Teacher's Manual. Cycle II = set of 6 books: 5 student workbooks, 1 test booklet, 1 Teacher's Manual. Cycle III = set of 4 books: 3 student workbooks, 1 test booklet, 1 Teacher's Manual.

PROGRESS: Teacher evaluates student progress.

TITLE: Lift-off to reading NEMIC NO: 20-1-2-12-2-3-195

STATEMENT OF PURPOSE: Lift-Off to Reading uses the Progressive Choice Reading Method to teach reading and is designed to reduce the complex structure of our language to a simple formula of one shape = one sound. Children are taught to combine letter shapes and sounds and finally to read words containing the letters in a meaningful text. The program offers a limited number of response choices at first and gradually increases in number as progress is made. Lift-Off to Reading consists of 3 carefully-structured cycles. Cycle I: All the letters of alphabet except "Q" in uppercase form; to recognize sound and print of each letter child progresses through 5 controlled steps--1) Audio-Meaning Level--words are heard and child demonstrates orally their meaning; 2) Discrimination Level--discrimination between letter shapes, printing letter shapes; 3) Identification Level--identifying letter shapes with letter sounds; 4) Compounding Level--printing of letter shapes in correct sequence when hearing meaningless blends, e.g., omo, op, etc; 5) Visual Meaning Level--reading and then printing responses which indicate he knows word meaning. Cycle II: all letters of the alphabet are presented in lowercase form. Study of 26 phonetically consistent compounds; the alphabet as sequence of letter names, the effect of final e on an internal vowel sound, grammatical tools, capitalization and punctuation. Cycle III: variant sounds for letter shapes already covered--words in which same letter compounds have more than one sound, words in which same sounds are represented by more than one combination of letter shapes, cursive letter shapes presented, reading of handwritten material, use of dictionary, reading for comprehension. Cycle I Teacher's Manual--includes orientation, learner objectives, basic teacher procedures, required learner responses and suggested instruction.

TITLE: Linguistic readers series

NEMIC NO: 20-1-1-12-2- (125 thru 137)
CLASSIFICATION NO:

AUTHOR: Smith, H.L., Jr, & Stratemeyer, Clara

VENDOR: Harper and Row, 1966
PRICE: $21.84

GRADE RANGE: Readiness to 3rd grade, 5 levels: pre-primary, primary, 1st and 3rd grades.

CONTEXT: Teacher/class

TEACHER'S MANUAL: Teacher Plan Book for pre-primers, introductory pages of each workbook addressed to teacher.

PROGRESS: Teacher performs informal inventory using a list of sight words located in the pre-primer guidebook p. 152 to assess each pupil's progress.

TITLE: Linguistic readers series NEMIC NO: 20-1-1-12-2- (125 thru 137)

STATEMENT OF PURPOSE: The Linguistic Reading Series is a reading series based on the Linguistic Principle and developed through the texts and accompanying workbooks. The Linguistic Principle is that letters do not have sounds--they represent the sounds. Goal: to teach child to react to a group of letters by furnishing the utterances for which the letters stand. A systematic approach to sound-letter relationships: Procedure:

1) Whole-word recognition of sight vocabulary presented in the pre-primary readers.
2) Manipulation of initial consonants introduced to form other words; e.g., tad = pad, sad.
3) Composing supplementary vocabulary words by combining word beginnings and graphonic bases previously introduced.

Level I: Pre-primary--frog, fun, tuggy, pepper. Sight words: tad, and. Word beginnings: a) consonant letters introduced: b,f,g,h,j,l,m,p,t,w,z, c,d,n,r,s,k. b) consonant clusters introduced: th,dr,fr,sl,sw,tr,ch,sh,st. N.B. q,v,x,y--not yet introduced. c) vowel letters introduced: short a,o,i, u. N.B. E--not yet introduced. Workbook accompanying the pre-primer texts: frog, fun, tuggy, pepper, letters, patterns, and drills: represents a sequential development of letter-sound concepts integrated with the stories and vocabulary of the 3 texts. The left-hand pages deal with the functional relationship between the words and pictures and serves to promote accurate word identification. The right-hand pages deal specifically with the relationships between the alphabet (symbols of our writing system) and the sounds of our language.

Level II: Primary Text--Six In A Mix. Contents: a) Vinny the Elf; b) Quiz the Gremlin; c) Things Within Things; d) Keep on the Track; e) Sid Did It; f) Swish the Lucky Little Fish. Workbook accompanying the Primer Six In A Mix. Left-handed pages taught in sequence--give extended practice in context for developing comprehension, discrimination, and control of vocabulary used in the Primer. Right-hand pages--familiarize children with some of the linguistic elements of which words are constituted.

Level III: First Grade Text--It Happens on A Ranch. Workbook: student responses include extensive manuscript writing--to drills in comprehension of reading material. Also work with contractions, compound words, alphabetical order, and building new words.

Level IV: Second Grade Text and Workbook--Sea of Magic Ink. Text Reviews:

1) Composing different words by dropping letters from words; e.g., remember - member.
2) Composing different words by adding letters to many words; e.g., cab - cabin.
3) Switching letters to get different words; e.g., dinner - differ.

Introduces: story sequence, function of a word within a sentence, syntactic frames to help understanding of new words in context, structural signals in syntax by positional clues, practice in context with verb forms, compounds, pronouns, contractions, question transformation, creative writing and interpretation, and formulation of oral sentences. Long-and-short vowels, final sounds of s and y, soft sound of g; the formation of new words with oo, ea, ee, ar, or, ore, ur, ou, ay, ai, oa, and the reliable VCe pattern; work with affixes er, est, ed, ing, ful, ly, fully, less, s, es, un- and a-; alphabetizing; dupligraphs, degrees of adjectives; sound spelling relationships.

TITLE: Linguistic readers series NEMIC NO: 20-1-1-12-2- (125 thru 137)

Statement of Purpose (Cont'd)

Level V: Workbook and Text--Winging Through Lights and Shadows. Comprehension: recall, true-false questions. reasoning: opposites, thinking, word functions, writing; word-recognition techniques: adjectives, comparing, alphabetical order, annexation, graph, affixing to base word, reducing to base word, compounds, contractions, dupligraph, elimination, graph, final e, correct grammatical form, heterographic-homophonic spellings, medial vowel pattern, pronouns, rhyming sounds, sentences--compound, complex, negative, question; sound-spelling rules, e.g., ae,ai,ie,ei, stress, substitution, suffixes and prefixes, syllables, voice: active and passive, vowel sounds, long and short.

TITLE: Listen-hear books

NEMIC NO: 20-2-6-12-2-34
CLASSIFICATION NO:

AUTHOR: Slepian, & Seidler

VENDOR: Follett Educational Corporation,
PRICE: $17.82 each series

GRADE RANGE: Kindergarten and primary grades

CONTEXT: Teacher supervision of individual child.

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: Series 1 = Mr. Sipple and the Naughty Princess
Series 2 = The Roaring Dragon of Redrose
Series 3 = Magic Arthur and the Giant
Series 4 = The Cock Who Couldn't Crow
Series 5 = Alfie and the Dream Machine
Series 6 = Lester and the Sea Monster
(All in library binding)

PROGRESS: Teacher's evaluation of child's progress

STATEMENT OF PURPOSE: To help develop auditory discrimination and hurdle troublesome letter sounds through captivating stories in which the main characters must learn the correct way to say the problem sounds. The child is encouraged, by his interest in the main character in each book, to listen, hear and compare the correct and incorrect sounds, and finally to select the correct sound.

"Mr. Sipple and the Naughty Princess" = (sound of "S")
"The Roaring Dragon of Redrose" = (sound of "R")
"Magic Arthur and the Giant" = (sound of "TH")
"The Cock Who Couldn't Crow" = (sound of "K")
"Alfie and the Dream Machine" = (sound of "F")
"Lester and the Sea Monster" = (sound of "L")

TITLE: Listen, mark and say

NEMIC NO: 20-1-1-12-1-140
CLASSIFICATION NO:

AUTHOR: Gotkin, L.G., Richardson, E., & Mason, Sheila.

VENDOR: Appleton-Century-Crofts, 1967
PRICE: $96.00

GRADE RANGE: Kindergarten and first grade

CONTEXT: Listen, Mark and Say has been designed to be used in a listening area which is quiet and free of distractions. Needed are a table or shelf with a set of chairs, dividers which form individual booths for each child, a tape recorder with a plastic cover, a shelf on which to keep the tape recorder, one set of earphones for each child and storage facilities for books and materials used with the tapes.

TEACHER'S MANUAL: One Teacher's Edition for each of Books 1, 2, 3, and 4
One Teacher's Introduction to Listen, Mark and Say

CONTENTS AND DURABILITY: Book 1 (The Readiness Lesson and lessons 1-4) 10 copies
Book 2 (Lessons 5-8) 10 copies)
Book 3 (Lessons 9-12) 10 copies) All in two card-
Book 4 (Lessons 13-16) 10 copies) board boxes
Teacher's Edition for each of books 1, 2, 3, 4.
One Teacher's Introduction to Listen, Mark and Say
One box containing 8 tapes.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Listen, Mark and Say is a programmed series and incorporates PREDETERMINED OBJECTIVES, SEQUENCING AND SHORT STEPS, ACTIVE individual participation, and immediate feedback. The primary objective is to develop children's ability to follow directions that involve the coordination of both listening and response skills, such as attending to all verbal directions, interpreting the contents of the pictures, answering questions orally, relating pictures conceptually as well as perceptually, and handling book-like materials in accordance with verbal directions.
The child goes through the following steps:
Step 1: The child watches and listens to the cartoon character solve the problem, then marks the solution and makes an X through the choice that is different. He then points to the appropriate object on the page (Step 2) and Step 3 he marks the answer before hearing the correct solution.

TITLE: Listening for speech sounds

NEMIC NO: 20-2-6-11-2-6
CLASSIFICATION NO:

AUTHOR: Zedler, Empress Y.

VENDOR: Harper Row, 1955
PRICE: $4.05

GRADE RANGE: Pre-primary to primary

CONTEXT: Individual/group instruction

TITLE: Listening for speech sounds NEMIC NO: 20-2-6-11-2-6

TEACHER'S MANUAL: Instruction book included

PROGRESS: Teacher evaluation of pupil progress

STATEMENT OF PURPOSE: Stories for the Speech Clinician and the Classroom Teacher. A book of 145 pages containing short stories to be read to children. The stories stress various speech sounds. Detailed instructions are included. Intended for use by teachers or parents to supplement the work of the speech therapist. Purpose is to help the child recognize and discriminate between the sounds of American-English, and to help the child make the association between visual symbols of the English alphabet and their auditory sounds.

TITLE: Listening skills program: primary level 1c

NEMIC NO: 20-2-6-12-2-38
CLASSIFICATION NO:

AUTHOR: Bracken, Dorothy K.

VENDOR: Science Research Associates, 1971

GRADE RANGE: First and second years of school

PRICE: $72.60

CONTEXT: Individual/group instruction

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: 12 recordings:

1) Auditory Discrimination:
   side a. Sounds of the City
   side b. Danny at the Zoo
2) Auditory Discrimination:
   side a. Tom, Tom
   side b. Wheezy, Sneezy, Freezy
3) Recall:
   side a. This Old Man
   side b. Hubbard's Cupboard
4) Recall:
   side a. A Lion and a Mouse
   side b. The Boy David
5) Following Directions:
   side a. Simon Says
   side b. Follow the Leader
6) Following Directions:
   side a. Down by the River
   side b. Rumplestiltskin
7) Sequence:
   side a. One, Two, Three
   side b. The Twelve Days of Christmas

TITLE: Listening skills program: primary level 1c

NEMIC NO: 20-2-6-12-2-38

Contents and Durability (Cont'd)

8) Sequence:
   side a. The Three Jolly Huntsmen
   side b. The Farmer and His Donkey
9) Topic:
   side a. What's it All About?
   side b. Birds of a Feather
10) Topic:
   side a. Penguins
   side b. How We Hear
11) Creative Listening:
   side a. Look! Listen! Smell!
   side b. Diary of a Cat
12) Creative Listening:
   side a. The Town Musicians
   side b. "Yoo-Py-Hi-O-O-O!"

PROGRESS: Teacher evaluation of student progress

STATEMENT OF PURPOSE: Listening Skills Program Primary Level 1c consists of twelve recordings dealing with the following skills: auditory discrimination, following directions, creative listening, recall, sequence, topics, and supplementary learning of vocabulary, organization, critical, appreciative, and purposeful listening. Listening material consists of sounds drawn from urban life, animals, games, fairy tales, holidays, farming and other high interest material. The purpose of the Listening Skills Program is to stimulate listening skills in order to produce a comparable effect in reading ability, i.e., the ability to identify main ideas, supportive details, and to draw conclusions.

TITLE: Merrill linguistic readers

NEMIC NO: 20-1-2-12-2-196
CLASSIFICATION NO:

AUTHOR: Fries, C.C., Wilson, Rosemary G., & Rudolf, Mildred K.

VENDOR: Charles E. Merrill Publishing Co., 1966-67

PRICE:

Readers 1 and 2	$ .92 ea.
Reader 3	1.04
Readers 4 and 5	2.28 ea.
Reader 6	2.68

GRADE RANGE: Pre-primary and primary

CONTEXT: Individual/small group/class

TEACHER'S MANUAL: Teacher's Edition
Readers 1 through 6 in paperback

Teacher's Edition

Readers 1 and 2	.92 ea.
Reader 3	1.04
Readers 4 and 5	1.28 ea.
Reader 6	1.68

TITLE: Merrill linguistic readers

NEMIC NO: 20-1-2-12-2-196

CONTENTS AND DURABILITY: Entire set includes: My Alphabet Book K-1; Readers 1, 2, and 3 (paper); Readers 4, 5, and 6 (cloth); Teacher's Editions Readers 1 through 6; Skills Books Readers 1 through 6. Alphabet Cards--Master Class set (54 cards); Package of 12 pupils' sets (54 cards each); Alphabet Mastery Test--spirit; Classroom Practice Kit--Boxed Kit of Alphabet Cards and Word Cards.

Price (Cont'd)

My Alphabet Book K-1	$ .92
Skills Book Readers 1 and 2	.60 ea.
Skills Book Reader 3	.68
Skills Book Readers 4, 5, 6	.80 ea.
Alphabet Cards--Master Class Set (54 cards)	2.00
Package of 12 Pupils' Set (54 cards each)	5.00
Alphabet Mastery Test--Spirit	.50
Classroom Practice Kit--Boxed Kit of Alphabet Cards and Word Cards	25.00

STATEMENT OF PURPOSE: The Merrill Linguistic Readers, a basal linguistic reading series, by emphasizing decoding skills, accomplishes two major objectives: first, the development of a child's ability to respond rapidly and accurately to the written representation of oral language signals previously established, and second, to develop a child's ability to comprehend the cumulative meaning of printed language symbols. The child becomes familiar with vocabulary and grammatical structures as well as developing mastery over major spelling patterns. Comprehension comes through familiar story environment and uncomplicated narratives. Reader 1--Spelling patterns with matrices; short a; beginning consonants; sight words is, a, the, on, not, look, to, he, I. Reader 2--Short i, u; final consonants x, s, f, b. Reader 3--Short o, e; final blends ll, ss, ck, th, tch. Reader 4--Ending blends; suffix ing. Reader 5--ade, ide, ope, use, ail, eed, eat, ar, all, ight, oa; prefix alive; suffixes ed, ing. Reader 6--cent, city, nice, ankle, age.
Skills Book 1 through Skills Book 6: Each reader is accompanied by a Skills Book which is designed to help the teacher evaluate the pupil's comprehension and mastery of spelling patterns. Also exercises to recall facts, organize material, draw conclusions and follow directions provide a foundation in study skills.

TITLE: Michigan language program--reading letters-reading words-writing-listening-performance tasks, didac response book

NEMIC NO: 20-2-1-12-2/3-32
CLASSIFICATION NO:

VENDOR: Ann Arbor Press, 1962-65
PRICE: $15.85

AUTHOR: Smith, D.E.P. et al.

GRADE RANGE: For beginning readers, readers of any age who have reading problems, exceptional children.

CONTEXT: Teacher-supervised individual and group activity.

TITLE: Michigan language program-- reading letters-reading words-writing-listening-performance tasks, didac response book

NEMIC NO: 20-2-1-12-2/3-32

TEACHER'S MANUAL: Program Administration Manual, paperback, Chapter 1-- The Teacher, The Learner and the Instructional Process. Chapters 2 and 3-- Learning Activities, General Procedures and Daily Operations. Chapter 4-- The Clinician's Handbook, Questions and Answers.

CONTENTS AND DURABILITY: The following are all in paperback form:

Reading Letters (Books 1 and 2)
Reading Words (Books 3, 4, 5)
Writing (Books 1, 2, 3, 5)
Word Attack and Comprehension
Listening (Books 1 and 2)
Didac Response Book
Performance Tasks Book

PROGRESS: Progress charts and performance tasks provide continual feedback that is so vital to motivating and involving the learner.

STATEMENT OF PURPOSE: The Michigan Language Program is an integrated language arts program that provides training in reading, writing, listening and speaking. In reading, the learners will read stories based on 375 common words and not containing more than 10% new words, and will demonstrate comprehension of them. The learner works at his own pace, advancing when he achieves success. In Reading Letters and Words he learns space discrimination, letter discrimination, word and sentence discrimination, plus comprehension. As the student learns letter discrimination, he acquires skill in auditory discrimination through listening exercises. Simultaneously, he begins to write as well as to acquire a basic sight vocabulary. In Listening, the program provides essential listening training by discriminating some 43 phonemes, one from the other. Phoneme contrasts are graded in difficulty and gross contrasts are provided first. At the next level the student distinguishes words in sentences and identifies distorted sounds. Finally, the student receives training in hearing separate sounds in words. He will attend to stories and sentences presented orally and demonstrate comprehension of them and learn to converse easily and fluently in informal discussions. He will demonstrate fluency by producing words and sentences satisfying constraints of time, context, sound and meaning. The Writing Program teaches space perception through a 9-point matrix or design that accommodates all upper and lower case printed letters. Given a model matrix, he can learn to write the letters on a matrix. He is then given the opportunity to write the letters without the help of a matrix but with a vertical and horizontal line to guide him. Later, he learns letter order and the relative size of letters. In Word Attack, learners will generate words given a constituent sound, generate words in a given context, identify sounds within words, identify constituent letter groups in words, identify sentences that make sense, identify new words, using sound and context clues. In Comprehension, learners will

TITLE: Michigan language program--reading letters-reading words-writing-listening-performance tasks, didac response book

NEMIC NO: 20-2-1-12-2/3-32

Statement of Purpose (Cont'd)

follow printed directions, answer questions requiring picture interpretation, answer questions requiring sentence interpretation, answer questions requiring paragraph interpretation. The Didac Program is used throughout most of this reading stage. Students learn to spell simple words, continue work on letter names and letter making, and learn capital-small letter equivalences. Basic work on punctuation is also started. In Performance Tasks, learners complete frequent tests on their growing competencies and keep records of their achievement which keeps both teacher and student in tune with his progress and helps teacher to decide course of future instruction.

TITLE: Montessori sound boxes
red (68-0109)
blue (68-0110)

NEMIC NO: 20-2-6-12-11-7
CLASSIFICATION NO:

VENDOR: A. Daigger and Company, 1968
PRICE: $18.00

AUTHOR: Montessori

GRADE RANGE: Pre-primary to primary

CONTEXT: Teacher-Class, teacher-small group within the class, individual with supervision

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: Two wooden boxes (one red, the other blue) each containing six cylinders, one set with red tops, the other with blue tops.

PROGRESS: Pupil response

STATEMENT OF PURPOSE: 1) To train the auditory sense and develop discrimination in sounds--when shaken each cylinder from one box makes a different sound from loud to very soft. The cylinders in the second box are matched in sound with those of the first box so that they may be paired. 2) To develop ability to concentrate--child must listen quietly and intently to be able to distinguish the sounds. 3) To foster a "sense of order"--by matching sounds, and 4) To help develop an attitude of calm in the child--child exhibits quietude and solitude in exercising the sound boxes alone.

TITLE: Motor and hand-eye coordination

NEMIC NO: 20-3-4-12-½-50
CLASSIFICATION NO:

AUTHOR: Venditti, F.P., & Murray, Evelyn.

VENDOR: Milliken Publishing Co., 1968
PRICE: $6.95

GRADE RANGE: Preschool and kindergarten

CONTEXT: To be used with a class. Teacher innovation and experimentation are encouraged.

TEACHER'S MANUAL: Introduction (6 pp.)

CONTENTS AND DURABILITY: One soft-bound detachable set of 12 transparencies and 28 accompanying spirit duplicating masters. Transparencies are plastic and spirit masters are heavy paper.

PROGRESS: Teacher's evaluation of student progress.

STATEMENT OF PURPOSE: To teach motor coordination through tracing, cutting, coloring and pasting exercises; to develop rhythmic movement, general muscular coordination, large muscles, controlled rhythmic movement, speech organs and good eye-hand coordination; to teach left-to-right picture reading. The teacher runs off worksheets for the entire class and leads the discussion with the transparencies. Instructions for various exercises are included in the introduction.

TITLE: Mott basic language skills program: series red-semi-programmed

NEMIC NO: 20-1-2-9-3-13
CLASSIFICATION NO:

AUTHOR: Chapman, B.E., & Schulz, L.

VENDOR: Allied Education Council, 1970
PRICE: Basic Language Skills--
SPS1 $1.40
SPS2 1.75
SPS3 1.95
SPS4 2.25

GRADE RANGE: Grades 1-3

CONTENTS AND DURABILITY:

Mott	Basic	Language	Skills	Program	Semi-Programmed	Series	Book	1	(2 copies)
"	"	"	"	"	"	"	"	2	(1 copy)
"	"	"	"	"	"	"	"	3	(2 copies)
"	"	"	"	"	"	"	"	4	(1 copy)
"	"	"	"	"	"	"	"	5	(1 copy)

All in red paperback covers.

PROGRESS: Teacher's evaluation of student progress.

STATEMENT OF PURPOSE: TMBLSP Book 1 introduces the following skills which must be mastered before other reading skills are attempted: teaching of eye movement from left to right, the alphabet in manuscript and cursive writing joining letters, letter discrimination and the teaching of consonant sounds. Basic Language Skills SPS Book 2 introduces the short vowel sounds and

TITLE: Mott basic language skills program: series red-semi-programmed

NEMIC NO: 20-1-2-9-3-13

Statement of Purpose (Cont'd)

understanding of short vowel usage. Basic Language Skills SPS Book 3 introduces pattern words w,c,k,ck and ed and ing endings. Pattern words with beginning sound of ch. Pattern words with ending sound of tch. Basic Language Skills SPS-4--sounds of ee (bee), ea (eat), ea (ear), oo (spoon) oo (book) oo with r (door), ar (car), or (fork), er (fern), ir (bird), ur (church), oy (boy), oi (oil), ou (house), ow (low), aw (saw), au as in auto, all (ball), ai (nail). Basic Language Skills SPS-5--sound of ai with r as in chair, ay (pray), y (fly), i (rind), i (child), ie (pie) oa (road), o as in hoe, long o as in bowl, ew (new), ue (due), a (plate), signals es, ed, ing, a followed by re, short a followed by final e, long e (eve), long i (file), use of er and est, long o (rope), long o followed by re, u in oo (rule) u as in cube, long u followed by re, short vowel sounds followed by e, words ending in y, use of er and est endings, words ending in le. Basic Language Skills SPS-6--c, es, ed, ing endings. g, d/g endings.

TITLE: Open court--correlated language arts program

NEMIC NO: 20-1-2-12-2-197
CLASSIFICATION NO:

AUTHOR: Hughes, Trace, Carus, & Thomas

VENDOR: Open Court Publishing Co., 1971

GRADE RANGE: Grades 1-6

PRICE: Approx. $130.00

CONTEXT: Individual instruction, small groups and whole groups

TEACHER'S MANUAL: Yes.

CONTENTS AND DURABILITY: Teacher's Guide 1:1--Foundation Program; Teacher's Guide for Reader 1:2; Teacher's Guide for Reader 2:1; Teacher's Guide for Reader 2:2; Teacher's Guide for Reader 3:1; Teacher's Guide for Reader 3:2; Teacher's Guide for Reader 4; Teacher's Guide for Reader 5; Teacher's Guide for Reader 6.

Each workshop Kit contains:

1 First Spelling Dictionary
2 sets Anagrams and Response Cards
5 Progress Charts
5 Movable Alphabets
1 pkg. Tracing Paper
1 pkg. Alphabet Paper
5 Word Line Books
5 Word Matching Games
1 set Sound Flash Cards
2 sets Alphabet Flash Cards
2 Plastic Alphabets
1 set Wall Sound Cards
5 Alphabet Puzzles
2 Phonograph Records
6 each storybooks

Basic Reader 1:2, Reading is Fun, wide variety of children's literature for second half of first grade. Basic Reader 2:1, A Trip Through Wonderland,

TITLE: Open court--correlated language arts program NEMIC NO: 20-1-2-12-2-197

Contents and Durability (Cont'd)

for 1st semester of 2nd grade: folk tales, legends, fairy tales and poems. Basic Reader 2:2, second half of 2nd grade: major events in history of country. Basic Reader 3:1, A Magic World--1st half of 3rd grade: tales of fantasy, biographical anecdotes of outstanding men, section on nature, science and invention. Basic Reader 3:2: 2nd half of 3rd grade: imaginary trips around world. Basic Reader 4, 4th grade: ancient myths to modern poetry, legends, folktales, etc. Basic Reader 5: 5th grade: folktales, legends, myths, adventure stories, biographies, etc. Basic Reader 6: 6th grade: prose, poetry, legends, stories of Greek heritage, etc. Teacher's Guide Levels 1:2-6 furnish a high degree of organization for teacher and presents systematic sequential development of skills in reading, writing, speaking, listening, spelling, composition, capitalization, punctuation, grammar and usage.

Presentation of sound/symbol relationship:

BOOK I:		BOOK II
long e	me, eat, see, heats, we, feet, teeth	it
long i	I, smile, right, fly	crow, beak, kick
long a	say, rain, ate	sing, sink
long o	no, boat, home	as, man
oo	too, you, to do	place, racing, -cy
u	mule, blue, new	June, bridge, huge, -x
	rainy, babies	sent
	her, bird, turn	why
		cut
		out, large, haul, hall
		boil, toy
		good, put, could
		knot, gnat, wrong, thumb
		worm, patient, pleasure
		phone

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The Open Court Correlated Language Arts Program has three main purposes: 1) Teach child to read and write independently by the end of the first grade; 2) Provide selections of literary quality and rewarding content; 3) Provide a correlated language arts program for grades one through six. The Program has three main divisions: 1. The Foundation Program (1:1) with its soft-cover reader-workbooks, and its supplementary storybooks; 2. Open Court Workshop Kit; 3. The hard-cover Basic Reader (1:2 through level 6) which contain a large proportion of classic literature for children plus the Teacher's Guides for the readers that provide correlated lessons in speaking, listening, composition, spelling, grammar usage, capitalization and pronunciation. Reader Workbook 1:1:1 Learning to Read and Write contains 24 lessons. These lessons initiate a sequential introduction to sounds, a systematic approach to

TITLE: Open court--correlated language arts program NEMIC NO: 20-1-2-12-2

Statement of Purpose (Cont'd)

blending, and the development of writing skills. Reader Workbook 1:1:2, Reading and Writing, completes the introduction of sounds and further develops blending and writing skills. It is a writing book as well as a reader and workbook. Word Line Book 1:1:3 is used with lessons 5 through 55 of the Foundation Program to teach blending and introduce new vocabulary. It is an extra-practice review source, a tracing practice implement, and an auxiliary guide in placing wordlines on the board. Teacher's Guide 1:1 begins with ten preparatory sessions which develop readiness for the first Reader Workbook and then provides lesson plans for the 55 lessons in the two Reader Workbooks (1:1:1 and 1:1:2). It explains the use of all the materials in the Workshop Kit and the methods and procedures used to teach sounds, blending, reading, writing, spelling and proofreading. It also provides speaking and listening activities for each stage of the program. Open Court Workshop Kit: Workshop is the name for special periods in the day when the teacher works with individual children or small groups who need additional help while the other children engage in independent activity. Basic Readers: The hard-cover Basic Readers cover the second half of grade one and all of grades two, three, four, five, and six. They offer a wide range of informational reading and provide the stimulation necessary for developing skills in thinking, discussing, and writing, as well as reading.

TITLE: Open court--remedial reading program NEMIC NO: 20-1-1-12-2-93
CLASSIFICATION NO:

AUTHOR: Hughes, Trace, Carus, Thomas VENDOR: Open Court Publishing Co., 1970

GRADE RANGE: Grade 4 and above PRICE: $35.00

CONTEXT: Whole class

TEACHER'S MANUAL: Teacher's Guide to Breaking the Code, Teacher's Guide to A Magic World

CONTENTS AND DURABILITY: Teacher's Guide to Breaking the Code: A guide to the basic pupil text and to oral reading and composition work. Teacher's Guide to A Magic World: For introducing oral reading stories, leading discussions, and selecting composition topics. Word Line Book: One copy to give slower students additional practice in easy words and sentences. Wall Sound Cards: One set, illustrating the 43 sounds and their spellings, to be posted in front of room. Sound Flash Cards: One set, for reinforcing symbol-sound association. Individual Sound Cards: Two sets for drill. Word Line Sentence Cards: One set for drill. Phonograph Record No. 2: gives sounds of spelling on each sound

TITLE: Open court--remedial reading program

NEMIC NO: 20-1-1-12-2-93

Contents and Durability (Cont'd)

card. Penmanship Paper: Aids development of neat, legible handwriting. Progress Charts: One package, to record progress and needs of each student.

STATEMENT OF PURPOSE: Open Court Remedial Reading Program is designed for children of normal ability who have not learned to read fluently--children frustrated by language code they haven't mastered. The Program starts right back at the beginning using a code-breaking approach to create phonetic word-attack skills. Because this introductory process is synthetic, it develops both decoding and encoding skill. This program is not designed for students shown by testing to have specific language disabilities, such as dyslexia or aphasia, nor does it attempt to patch isolated weakness, but treats the reading process as a whole. This is an in-depth program for the whole class.

TITLE: Opposite concepts, flannelboard visual aids

NEMIC NO: 20-2-1-12-2-59
CLASSIFICATION NO:

AUTHOR: Instructo Corporation

VENDOR: Hoover Brothers, Inc., 1969
PRICE: $2.50

GRADE RANGE: Reading readiness; primary and up

CONTEXT: Single participation--joint observation; individual participation; team participation--e.g., child pantomimes answer while other guesses.

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: 56 colored velour-backed cardboard cutouts, plastic sectional storage tray

PROGRESS: A teaching guide which lists possible opposite relationships for each pair of opposite concepts, thus giving the instructor guidelines to follow in interpreting student response.

STATEMENT OF PURPOSE: Using tangible symbols (the picture cards) to illustrate the meaning of opposite by developing the ability to identify opposites, e.g., top drawer opened (the opposite is)--bottom drawer opened. Promotes visual discrimination and skill in picture interpretation (e.g., this red car is clean, but this red car has black on it--it is dirty). Also promotes ability to perceive relationships, e.g., encourage children to suggest other examples that illustrate the same concept under discussion, illustrate the relationship between slow, fast; walking, running, and in general provides the opportunity for vocabulary development by encouraging pupil participation.

TITLE: Our book

AUTHOR: Atwood, Marion.

GRADE RANGE: Ungraded, pre-school, kindergarten, maybe 1st grade

NEMIC NO: 20-1-1-12-2-114
CLASSIFICATION NO:

VENDOR: Allyn & Bacon, Inc., 1970
PRICE: $46.12

CONTEXT: An activity for a whole class, or individual children working with a teacher or tutor

TEACHER'S MANUAL: 1 manual--gives suggestions for teaching

CONTENTS AND DURABILITY: Our Book, 28" x 22", cardboard-bound with black tape, includes cutouts, folders and envelopes; pictures (set of 12); spirit duplicating masters for worksheets and teacher's manual. Cutouts not durable for library lending purposes.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: To provide pre-reading experiences and language development for young children; exercises include teaching left-to-right eye movement, visual discrimination, awareness of shapes, and an introduction to the words "left" and "right". Children assemble the cutouts onto the pages of "our book", using the prepared cutouts centered on the themes of toys, tea party, transportation and shapes and colors. Teacher innovation is also possible.

TITLE: Palo Alto reading program: sequential steps in reading

AUTHOR: Glim, T.E.

GRADE RANGE: Beginning elementary years, ungraded program

NEMIC NO: 20-1-1-12-1-111
CLASSIFICATION NO:

VENDOR: Harcourt, Brace & World, Inc., 1968
PRICE: $76.00

CONTEXT: Group/individual

TEACHER'S MANUAL: Teacher's Guide covers the 20 books; guide broken into 6 segments.

CONTENTS AND DURABILITY: 6 spiral paper teacher's guides cover the full program; 20 pupils' paperbound books

PROGRESS: Child progresses at own rate to become an independent reader.

STATEMENT OF PURPOSE: The Palo Alto Reading Program is composed of 20 Sequential Steps in Reading Books which place a strong emphasis on the relation of sound and symbol in our language. The program provides the child with the maximum opportunity to meet his own needs through the aim and method of reading skills. In a step-by-step progression, the program

TITLE: Palo Alto reading program: sequential steps in reading NEMIC NO: 20-1-1-12-1-111

Statement of Purpose (Cont'd)

aids the child in becoming an independent reader.
Books 1-4 introduce the 26 letters of the alphabet, thus also introducing the consonant-short vowel-single consonant pattern of the English language. Introduction and practice of basic reading skills are brought forth in these beginning books (outline for Books 1-4).
Book 5 introduces beginning and ending consonant clusters, as well as final double consonants. Content complexity becomes more acute as the expanding vocabulary allows the child to read and write more independently. (See Book 5 outline.)
Long vowel sounds are introduced in Books 6-8, as well as further word building skills, through the use of the signal s for forming plurals, verb endings, compounds, contractions, abbreviations and possessives. (outline 6-8)
In Books 9-11, consonant digraphs are introduced through the use of familiar patterns. Variant sound-symbol relationships are taught, as well as the skills for the signals -es and -ed. (outline 9-11)
The inflectional endings -ed and -ing, the modified vowel sounds before r, and the long /i/ sound as represented by y and i are studied in Books 12-13. (outline 12-13)
Variant sound-symbol patterns are introduced in Books 14-17. The /s/ sound as represented by c and the/j/ sound as represented by g, ge, and dge are also covered. Word building is extended to cover the suffixes -er and -est. Sentences become more complex and stories are analyzed as to structure and content. (outline 14-17)
The remaining Books 18-20 deal with the vowel digraphs aw and au; ew, ue, ui, ou; ea; ie and ei. Also introduced is the diphthong /ou/, the /f/ sound as represented by ph, and the /schwa/ sound as represented by variant letters; the prefixes ou-, be-, and in-, as well as the suffix -ion are covered within Book 19. (outline 18-20)

Book 1: Pattern words with a,m,t,n,l,b,r,f,s,i,o
Book 2: Pattern words, Book 1, plus h,g,v,d,i
Book 3: Pattern words, Books 1 and 2, plus z,k,w,p,u; beginning/ending letter patterns, i.e., beginning = ba, ga; ending = am, at
Book 4: Pattern words, Books 1-3, plus c,y,j,e,i,x; end of A-B-C's
Book 5:
- a. Beginning consonant clusters: bl,fr,gr,tw
- b. Ending consonant clusters: nd,ld,lp,pt
- c. Ending doubled consonants: ll,ss,dd
- d. Words with different vowel sounds

Book 6:
- a. e as in be
- b. ee as in seen, see
- c. a and the signal e as in made
- d. e and the signal e as in eve, here

Book 7:
- a. Consonant clusters with ee patterns
- b. Consonant clusters with ae patterns
- c. Signal s in hats
- d. i-consonant-e as in like
- e. Compounds

TITLE: Palo Alto reading program: sequential steps in reading NEMIC NO: 20-1-12-1-111

Statement of Purpose (Cont'd)

Book 8: a. The /z/ sound of the signal s
b. o and the signal e as in note
c. u and the signal e as in mule

Book 9: a. are as in bare; ore as in more
b. sh as in ship
c. Signal es as in dishes
d. o as in go and old
e. th as in this
f. oo as in moon; oo as in book, door

Book 10: a. ed as in seemed (d)
b. wh as in when
c. ch as in chip and rich
d. tch as in catch

Book 11: a. nk (bank); ck (back); ng (bang)
b. ed pronounced /ed/
c. Signal es after s, z, x

Book 12: a. Double consonants, plus -ed, plus -ing
b. Signal ing as in thinking

Book 13: The use of: ar (car); or (fork), (work); er (her); ur (fur); ir (sir); y (by, eye, buy); i (find); vowel-consonant ing

Book 14: ea (eat, ear); ay (day); ey (they); ai (aid, air, said)

Book 15: oy (boy); oi (oil); suffix er (faster, skater); words ending in er (winter); twin consonants before er; suffix est

Book 16: al (salt); a (war); c (cent); ar (dollar); ture (nature); y (baby, funny)

Book 17: Possessive: 's and use of 's as in what's; oe (toe); oa (board); g (gem); ge (age); dge (badge); ie (pie); igh and ight; et (rocket) ate (pirate); ey (key)

Book 18: ou (out); ow (cow); a (about); ew, ve, vi, ou; apostrophe /'/ as in I'm, don't; aw (saw); au (cause); a at the end (Santa)

Book 19: a. Syllables
b. Prefixes un, be, in
c. Suffix ion
d. ea
e. ough
f. an, en, on, om, (ocean, bottom)

Book 20: a. le (table); el (label); al (signal)
b. ie (chief); es in babies
c. ei (their); eigh (weigh)
Silent consonants
ph (phone)

PLUS: Teacher's Guide Books 1-20

TITLE: Pathway--eye/hand coordination exercises

NEMIC NO: 20-3-3-12-1-40
CLASSIFICATION NO:

AUTHOR: Getman, G.N.

VENDOR: Teaching Resources, 1971
PRICE: $16.00

GRADE RANGE: Pre-primary to primary

CONTEXT: Individual or group--supervision by instructor

TEACHER'S MANUAL: 1 copy

CONTENTS AND DURABILITY: 42-page Instructor's Guide to the goals and procedures for all exercises
A polished wooden wall plaque with detachable support rod; hollow plastic ball on adjustable-length cord
2 polished wooden striped bats
A striped durable wall target

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: To develop and give practical experience in the concepts of Visual Discrimination, coordination of arm, hand and eye dexterity and controlled rhythmic movement. To develop arm/hand/eye coordination necessary in crafts and workbook exercises; to develop necessary sport and playground skills (e.g., rapid simultaneous movement of eyes following a moving object, with sudden changes in direction). Progressive development is emphasized in the following areas: spontaneous eye movement, following moving objects (ocular), reach/grasp/release (ocular), visual judgment of direction and timing, visual-spatial judgment, sequencing, left-right discrimination, color recognition and matching, visual-motor integration, eye/hand teaming and timing, postural control and balance, number concepts--counting (count strokes). Visual and tactual discrimination, association, comparison,anticipation and integrated motor action are all required in the rapid decision-making process for the control of each stroke.

TITLE: Peabody language development

NEMIC NO: 20-3-2-6-4
CLASSIFICATION NO:

AUTHOR: Dunn, L.M., Smith, J.O., & Horton, Kathryn.

VENDOR: American Guidance Service, Inc., 1971
PRICE: Kit #P--$125.00, Kit Level #1--$52.00, Kit Level #2--$65.00, Kit Level #3--$50.00

GRADE RANGE: Level P, 3-5 mental age; Level #1, 4½-6½; Level #2, linguistic age of 6 to 8 yrs.; Level #3, mental age of 7½ to 9½ yrs.

CONTENTS AND DURABILITY: Level #P: Manual #P (orange leatherette), stimulus

TITLE: Peabody language development NEMIC NO: 20-3-2-6-4

Contents and Durability (Cont'd)

cards: 394 full-color 7" x 9" in 10 categories; Visual Closure Templates, set of 3, 7" x 9"; 6 Story Posters 29" x 43"; stimulus cards, set of 20, 9-5/8" x 10-3/4"--full color, pertaining to family and home; plastic color chips, 240 (30 each of 8 colors); puppets: "P. Mooney", "Elbert", and the "Gastess Goose"; P. Mooney Bag, P. Mooney Stick, 2 Mannikins (of a boy and a girl, magnetized); Fruits and Vegetables, plastic, 21 life-sized; recordings, 10 7-inch 33-1/3 rpm; xylophone, toy, keyed to note names, numbers and colors; mannikin, separate body parts, magnetized; magnetic geometric designs: 5 of each different-sized squares, 5 of 3 different-sized circles, 5 of 3 different-sized triangles; 2 metal carrying cases, one 14" x 8" x 11½" and one 25" x 12" x 7".
Level 1--Daily Lesson Manual; 2 hand puppets (Peabo and Telsie); 430 colored stimulus cards; 6 story cards and 4 "I Wonder" cards; 550 plastic chips; a tape recording containing 6 fairy tales and the "language time" songs.
Level 2--(housed in a metal container) Daily Lesson Manual; 2 hand puppets (Whiskers and Twinkles); 424 colored stimulus cards in 7 categories; 12 "I Wonder" cards; 560 interlocking plastic chips in 16 colors; 1 tape recording containing 8 folk tales and songs; 1 "Teletalk", which is a transistorized battery-operated intercommunication set.
Level 3--Manual; 214 stimulus cards, 7" x 9", in color; 560 color chips (35 each of 16 different colors); 2 puppets (Fay Hawk and Minnie Bird); 12 "I Wonder" posters; 6 Story Making Posters: 4-7" recordings (sounds of musical instruments, "Where Am I?", and unusual sound sequences).

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: Each kit is a self-contained collection of high-interest materials (cards, puppets, tapes and/or records, plastic color chips, etc.) plus a Manual for each kit which represents structured lessons designed to stimulate overall language development and intellectual development. No reading or writing is required of the participants; the teacher plays a secondary role. No seat work is involved. The authors suggest materials may be used with culturally disadvantaged, trainable retarded, educable retarded, kindergarten, and those of normal intelligence with a lag in language development; no specialized training is necessary for the trained teacher, speech clinician, etc. in order to use the materials.
Level 1--A kit designed to provide lessons which stress an overall oral language and verbal intelligence development program; each lesson contains an average of 3 of the 23 different types of activities provided in the program.
Level 2--A kit which is a sequel to the Peabody Language Development Kit, Level 1; the Level 2 kit is designed on the same format, but has application for students with a linguistic age of 6 to 8 years.
Level 3--Appropriate for mental ages 7½ through 9½; the materials stimulate overall language and intellectual development.

TITLE: Perceptual training activities handbook

NEMIC NO: 20-3-3-5-2-23
CLASSIFICATION NO:

AUTHOR: VanWitsen, Betty V.

VENDOR: Teachers College Press, 1967
PRICE: $1.95

GRADE RANGE: Pre-primary, primary

CONTEXT: Curriculum guide

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE:
Behavior Management
Visual Training
- eye movement & focusing
- form perception (stencils, pegboards, parquetry blocks, design blocks)
- visual memory
- visual comparison (jigsaw puzzles, matching & sorting, bead stringing, copying & illustrating, assembling pictures)
- visual conceptualization (oral descriptions, find missing parts)
- eye-hand coordination (coloring stencils, paper and pencil games)

Auditory Perception Skills
- listening games (familiar sounds, animal sounds, imitations, following directions)
- language sounds (rhyming & differentiation, auditory memory)
- phonics
- sequence
- meaning differentiation
- sound & concept games

Tactile Perception Skills
- shape perception
- letter & number perception

Olfactory Perception Skills
Gustatory Perception Skills
Kinesthetic Perception Activities
- gross motor--crawling, creeping
- balance

TITLE: Phonetic keys to reading and keys to independence in reading

NEMIC NO:
CLASSIFICATION NO:

AUTHOR: Harris, Creekmore, & Greenman

VENDOR: The Economy Company, 1971
PRICE: Complete set for grades 1, 2, and 3--$62.10

GRADE RANGE: Grades 1-3

CONTEXT: Individual or group--supervision by instructor

TEACHER'S MANUAL: 3 teacher's manuals

TITLE: Phonetic keys to reading and keys to independence in reading NEMIC NO:

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The Phonetic Keys Program places the emphasis upon phonetic analysis, which is essential to independence in reading, and to understanding of the relationships between language sounds and symbols. The systematic program develops audio-visual readiness for phonetic analysis and provides for the application of generalizations in word perception. Early and sustained attention is given to the reinforcing skills of word perception: structural analysis (syllabication, identification of compound words, contractions and prefixes and suffixes), word configuration, and context clues for meaning.
GRADE 1--TAG is an audio-readiness book and pre-primer which presents the basic sounds, associated letters and a few phonetic principles along with conventional readiness activities. It contains words with sounds and letters studied in audio-readiness section.
GRADE 1--DOT AND TIM: the primer continues the skills introduced in TAG. These skills are developed and mastered in the process of learning a primer vocabulary and reading primer stories. Reading comprehension is taught by oral group discussion and written comprehension exercises.
GRADE 1--ALL AROUND WITH DOT AND JIM: the first reader expands the scope of word-attack skills program. The comprehension program continues to relate reading with experiences and fanciful stories are introduced.
MY OWN WORK WITH WORDS(Optional): devotes at least one page of following activities to each lesson in the three books for grade 1.
GRADE 2--THROUGH HAPPY HOURS: orientation reader for grade 2--reviews all word-attack skills and much of vocabulary for grade 1. Contains new stories and more depth in the comprehension activities.
AS DAYS GO BY: second reader follows THROUGH HAPPY HOURS. Expands vocabulary and skills in word-attack and comprehension.
GRADE 3--ALONG NEW WAYS: the orientation reader reviews all of the word-attack and comprehension skills and much of previous vocabulary. It contains new and interesting vocabulary and stories.
WIDE DOORS OPEN: the third reader follows ALONG NEW WAYS. It introduces fine points of word analysis and makes application of most useful word-attack skills.
PHONETIC CARDS AND CHARTS: the set of cards and charts for grade 1 consists of 707 flash cards and word cards, 80 phase cards and 13 story charts with accompanying sentence strips. The set of picture cards contains 200 cards, 150 of which are full color, 25 in two colors, 25 in one color. These cards present and review various sounds as suggested in the teacher's manual. The set of phonetic cards for grade 2 consists of 385 cards and the set for grade 3 consists of 155 cards.

TITLE: Phonetic reader series

AUTHOR: Craig, Lillian.

GRADE RANGE: Supplementary

CONTEXT: Individual or group--supervision by instructor

NEMIC NO: 20-1-4-12-2-(91 thru 96)
CLASSIFICATION NO:

VENDOR: Educator's Publishing Service, 1971
PRICE: $2.00 set of 6

CONTENTS AND DURABILITY: Six 6" x 9" paperback booklets: Puss in Boots, Jack the Giant Killer, Jack and the Bean Stalk, Alladin and the Wonderful Lamp, Ali Baba and the Forty Thieves, Robinson Crusoe.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: A group of well-known children's stories rewritten in simple phonics and increasing in difficulty from Book 1 to Book 6.

TITLE: Phonics we use

AUTHOR: Meighen, Mary, et al.

GRADE RANGE: Grades 1-6 (A-G)

NEMIC NO: 20-2-12-2-103
CLASSIFICATION NO:

VENDOR: Lyons & Cannahan, 1971
PRICE: $6.00

CONTEXT: Individual/group

CONTENTS AND DURABILITY: 7 paperbound texts

PROGRESS: Flexible program--teacher adapts material to pupils' needs

STATEMENT OF PURPOSE: The Phonics We Use series is a "complete work-recognition program" which helps pupils associate written symbols to speech sounds. Based upon flexibility, the program is geared to individual abilities and needs. Sequence of instruction is as follows: Concept introduction; reinforcement through practice; diagnostic testing; and continuous review to maintain skills. Breakdown of text content:
1st Grade--Book A: 1) Auditory Discrimination; 2) Visual Discrimination; 3) Coordinating auditory and visual discrimination; 4) Developing skills. Book B: 1) Developing skills--initial, final consonant, blends, digraphs.
2nd Grade--Book C: Developing Skills: long & short vowels, vowel digraphs, compound words, word endings.
3rd Grade--(skills, cont'd) Consonant blends, diphthongs, syllables, accent, plurals, root words, prefixes, endings, homonyms. Book D.
4th Grade--(skills, cont'd) Book E: Prefixes, suffixes, endings; plurals; compound words; letter combinations; dictionary use; synonyms and antonyms; homonyms.
5th Grade--Book F: (skills, cont'd) Prefixes, suffixes, endings; plurals; compound words; letter combinations; dictionary use; synonyms, antonyms-review; homonyms; words often confused.
6th Grade--Book G: Same topic areas as Book F except with further expansion as well as review.

TITLE: Phonovisual method

NEMIC NO: 20-2-6-11-½-27
CLASSIFICATION NO:

AUTHOR: Schoolfield, Lucille., & Timberlake, Josephine.

VENDOR: Phonovisual Products, Inc., 1960
PRICE: $16.65

GRADE RANGE: Primary, kindergarten

CONTEXT: Individual/group

TEACHER'S MANUAL: Method Book

CONTENTS AND DURABILITY: 2 phonograph records of sounds on phonovisual charts
2 transition books and Now I Can Read--softbound
2 Consonant Workbooks--softbound
2 Vowel Workbooks--softbound
2 packages Skill Builders (charts)
Small Vowel and Consonant Chart
Provisional Book of Games
Vowel Wall Chart
Method Book

PROGRESS: Student progresses at individual rate; teacher assists according to individual needs.

STATEMENT OF PURPOSE: The Phonovisual Method is a simplified, carefully-organized and complete phonetic supplement for the development of all communicative skills--listening, speaking, reading, spelling and writing. Through the use of pictorial charts, a definite plan is exposed for training in auditory and visual discrimination. There are 26 sounds on the Consonant Chart and 17 sounds on the Vowel Chart. Three main steps are outlined in teaching the Phonovisual Method. 1) Initial Consonants--children learn to recognize, read, write and "say" consonant sounds in connection with key pictures on Phonovisual Consonant Chart. 2) Initial and Final Consonants--children learn to listen through a word, identifying and writing first and last sounds. 3) Vowels and Blends--vowel ee; recognition of blends, and spelling; spelling, reading, and writing of words.

TITLE: Play it by ear--auditory training games

NEMIC NO: 20-2-6-2-2-11N
CLASSIFICATION NO:

AUTHOR: Lowell, & Stoner

VENDOR: John Tracy Clinic, 1960
PRICE: $5.50

GRADE RANGE: Children with hearing loss

CONTEXT: Teacher with class, or small group within a class

TEACHER'S MANUAL: Play It By Ear is a Teaching Resource Material.

CONTENTS AND DURABILITY: One vinyl-bound volume, ring binding

PROGRESS: Teacher's evaluation of student's progress

TITLE: Play it by ear--auditory training games NEMIC NO: 20-2-6-2-2-11N

STATEMENT OF PURPOSE: To help development of good listening habits in young deaf and hard-of-hearing children. It should be stressed that these auditory training activities are games and should be played in that spirit, and they all have to do with ear and hearing; to be used in a flexible way, modifying procedures as you go to suit a child's maturity, language level and his hearing level. This book will show you (with concrete and specific details) how to construct and play a number of auditory training games that will develop the "listening habit". The book is organized around some of the sources of sounds that are common occurrences and that lend themselves to interesting games. Each activity has more or less the same format. The following is a partial list of sounds immediately available to the child. The first category is SOUNDS. There are many types: human sounds, animal sounds, work sounds and noises of all kinds. Next there is MUSIC. These exercises deal with pitch, intensity, duration and rhythm. VOICE sounds dealing separately with the vowels, consonants, pitch, intensity and duration as well as a section on words, phrases, sentences, stories and nursery rhymes. DISTANCE sounds. DIRECTION deals with sound source and with listening with both ears.

SOUNDS--Activity # 1 = Environmental--Indoor-Duration (on/off)
2 = Environmental--Indoor (telephone)
3 = Human (inarticulate sounds)
4 = Noisemakers--Tempo (fast/slow)
5 = Noisemakers--Intensity (loud/soft)
6 = Animal
7 = Noisemakers--Number (distinguish #1,#2,#3)
8 = Noisemakers--Pitch (high/low)
9 = Environmental (different household sounds)

MUSIC --Activity #10 = Duration
11 = Intensity (loud/soft)
12 = Pitch
13 = Rhythm (rhythm, instruments--recognition of)

VOICE --Activity #14 = Duration
15 = Intensity (loud/soft vowel sounds)
16 = Vowel sounds
17 = Pitch (high/low)
18 = Words (distinguish two words composed of unlike vowel and syllable combinations)
19 = Quality (identify different voices)
20 = Duration (continuous vowel sound is interrupted by a consonant)
21 = Linking (voice flow--speaking)
22 = Words (family names)
23 = Phrases
24 = Words (familiar sounds)
25 = Sentences (simple--different in length)
26 = Sentences (similar in length)
27 = Consonants (same vowel sounds, different consonant sounds)

TITLE: Play it by ear--auditory training games

NEMIC NO: 20-2-6-2-2-11N

Statement of Purpose (Cont'd)

VOICE --Activity #28 = Consonants (distinguish various consonant sounds)
29 = Stories (distinguish words, phrases, sentences)
30 = Stories (distinguish different sentences from hearing only)
31 = Auditory Training Records
32 = Nursery Rhymes
33 = Stories on Records

DISTANCE--
Activity #34 = Distance (sound intensity diminishes and increases according to distance)

DIRECTION--
Activity #35 = Binaural Hearing Sounds
36 = Binaural Hearing Voices

TITLE: Play tiles

NEMIC NO: 20-3-4-12-2-19
CLASSIFICATION NO:

AUTHOR: Halsam

VENDOR: R.H. Stone Products/ Constructive Playthings, 1970
PRICE: $4.00/set

GRADE RANGE: Pre-primary, primary

CONTEXT: Individual activity, or group activity with teacher supervision

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: Plastic pegboard, 10" x 18"; 336 plastic playtiles; design sheet

PROGRESS: Teacher's own evaluation of child's ability

STATEMENT OF PURPOSE: To teach color, design, proportion. Helps develop sustained attention span, fine and gross coordination, encourages creative construction and planning--a readiness activity. Playtiles: red, blue, yellow, white. Child copies from design sheet by shape and color.

TITLE: Primary phonics

NEMIC NO: 20-2-1-12-2-64
CLASSIFICATION NO:

AUTHOR: Makar, B.

VENDOR: Educators Publishing Service, 1971
PRICE: $6.30

GRADE RANGE: Kindergarten, first grade

CONTEXT: Individual/group

TITLE: Primary phonics NEMIC NO: 20-2-1-12-2-64

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: 3 softbound workbooks ($1.10 each)
10 softbound storybooks ($ .30 each)

PROGRESS: Teacher assistance to individual student's rate of progress

STATEMENT OF PURPOSE: Three workbooks and ten storybooks are included in this structured program in beginning reading. Only single consonants and the short vowels are used initially. WORKBOOK ONE gives practice in reading, writing and spelling the short vowels, while WORKBOOK TWO, using the same consonants as the first, introduces long vowels. The second workbook is used after the ten storybooks have been read. WORKBOOK THREE uses single consonants, consonant blends, and introduces plural forms, compound words and two-syllable words. The entire series, when completed, will include ten workbooks with accompanying storybooks for each.

TITLE: Programmed reading series--primer, books 1-21 NEMIC NO: 20-1-4-3-4-46
CLASSIFICATION NO:

AUTHOR: Buchanan, Cynthia D., & Sullivan, M.W.

VENDOR: McGraw-Hill Book Co., 1970
PRICE: $ .99 for Primer; Series I: Books 1, 2: $ .99; Books 3, 4, 5, 6, 7: $1.11; Teacher's Guide--Series I: $1.65. Series II: Books 8, 9, 10, 11, 12, 13, 14: $1.11; Teacher's Guide: $1.47; Series III: Books 15, 16, 17, 18, 19, 20, 21: $1.23.

GRADE RANGE: 1st and 2nd grades, remedial students, and 3rd grade

CONTEXT: In small groups.

TEACHER'S MANUAL: Teacher's Guide for Series I; Teacher's Guide for Series II.

CONTENTS AND DURABILITY: Programmed Primer
Series I: 7 Programmed Readers numbered 1-7
Series II: Books 8-14
Series III: Books 15-21

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: A linguistic approach to reading based on a careful and precise analysis of our language in which phonetically regular and irregular sound symbol groups have been classified and organized for the most effective learning sequence.
The Primer is the child's first book and is divided into 3 parts. In Part 1 the child learns to follow directions and reviews the names and sounds of letters. In Part 2 the child learns to write words by writing letters

TITLE: Programmed reading series--primer, books 1-21

NEMIC NO: 20-1-4-3-4-46

Statement of Purpose (Cont'd)

together and then reading the words. He learns to begin a sentence with a capital letter and end it with a period. Part 3 introduces the child to a fully-programmed form.
Programmed Reading--Series I (Books 1-7) consists of 7 books appropriate for first grade level. Children work with words of more than one syllable, the question mark and period, plural and possessive forms, double consonants, and all phonetically regular combinations. Series 1 covers a total of 14 vowel classes and 23 consonant classes.
Series II (Books 8-14) consists of 7 books appropriate for average second grade level. In II the child learns to read, write and spell and his knowledge of sound-symbols relationships gives him the tools to unlock thousands of other words. Hundreds of linguistic exercises are completed by child plus reading and writing stories, descriptive paragraphs, and poems. Irregular long vowels and other sound-symbol groups are mastered. 28 vowel classes and 8 consonant classes are introduced.
Series III (Books 15-21) are for the average 3rd grade level. Child learns to read, write, spell, vocabulary of 3000 words, comprehension exercises.

TITLE: Puppet playmates

NEMIC NO: 20-9-1-12-1-11,(14 thru 18)
CLASSIFICATION NO:

AUTHOR: Instructo

VENDOR: Constructive Playthings, 1970

GRADE RANGE: Pre-primary, primary

PRICE: $15.80 complete set

CONTEXT: Group activity

TEACHER'S MANUAL: Teacher instructions accompany each kit.

STATEMENT OF PURPOSE: Sets of 4 strong laminated kraft board contours (girl, nurse, robot, etc.), 17" x 34" in size, with wipe-off surface. Die-cut arm and head holes are made to comfortably fit any child. Can be used in role-taking activities.
Community Helpers: doctor, nurse, policeman, fireman
Original Story Characters: prince, princess, giant, dragon
Space Explorers: 2 spacemen, robot, man from outer space
Family Members

TITLE: Readiness for learning

NEMIC NO: 20-3-3-12-2-79
CLASSIFICATION NO:

AUTHOR: McLeod, P.

VENDOR: J.B. Lippincott Co., 1970

GRADE RANGE: Pre-primary to primary

PRICE:

TITLE: Readiness for learning NEMIC NO: 20-3-3-12-2-79

CONTEXT: Emphasis on individual mode of instruction: each child proceeds at own pace, under teacher supervision.

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: 1 softcover teacher's manual, 1 softcover student workbook, 2 sets of "word cards" with tachistoscope

PROGRESS: Performance curriculum with clearly-defined behavioral goals which can be objectively evaluated.

STATEMENT OF PURPOSE: The purpose of Readiness for Learning is to provide a sequential program of visual and auditory perceptual-motor training for children in kindergarten or in first grade that will lay the foundation for successful learning, particularly in reading. The program is made up of a variety of specific skill development activities to be organized within the framework of the "station concept", i.e., the specific skill development activities to be undertaken are organized into separate areas of "stations". Each "station" may have one or more related activities. This program is divided into 3 levels: Bilateral Training--help child develop: coordination within and between large muscle systems of his body, e.g., touch your ears; awareness of sensory stimuli, e.g., identify objects by their sounds, and mental image of his body, e.g., angels in the snow. To be used in conjunction with these physical activities are workbook exercises in tracing forms, completing figures and mazes and reproducing designs. Level 2--Unilateral Training--utilize patterns of behavior developed through Level 1 activities to encourage the development and use of a pre-dominant hand, foot, and eye. Workbook exercises include letter matching, letter completion, alphabet, alphabet tracking--all upper and lower case--letter matching and reproducing, tachistoscope training with letters. Level 3--Letter and Word Knowledge--specifically related to readiness for reading: eye-hand coordination, perceptual constancy, perception of position in space, perception of spatial relationships, figure-ground perception, as these skills relate to letter configurations and the significance of the order of these letters in word forms. Workbook exercises: word matching and completion, letter and word strips using tachistoscope.

TITLE: A reading readiness workbook in visual discrimination NEMIC NO: 20-1-1-6-2-58
CLASSIFICATION NO:

AUTHOR: Goldstein, H., & Levitt, Edith. VENDOR: Follett Publishing Co., 1968

GRADE RANGE: Pre-primary and primary

TITLE: A reading readiness workbook in visual discrimination NEMIC NO: 20-1-1-6-2-58

PRICE:

Parkinson Reading Readiness Program for Special Children	$128.16
Reading Readiness Kit	72.00
Additional or Replacement materials for Reading Readiness Kit:	
Flash Cards	14.40
Geometric Forms	7.20
Worksheets	23.40
Formboards (1 box)	14.40
Color Design Sheets	14.40
Teacher's Guide for Complete Kit	4.96
Reading Readiness Workbooks Box	56.16
Additional or Replacement materials for Readiness Workbooks Box:	
Visual Discrimination Workbook	.87
Auditory Discrimination Workbook	.87
Teacher's Guide (for complete Workbooks Box)	3.96
Discrimination Workbook	.87
Concepts Workbook	.87

CONTEXT: Individual and small groups

TEACHER'S MANUAL: Teacher's Guide for Reading Readiness Kit
Teacher's Guide for Reading Readiness Workbook Box

CONTENTS AND DURABILITY: 1) Parkinson Reading Readiness Program for Special Children consists of 1 complete Reading Readiness Kit, and 1 complete Reading Readiness Workbook Box. 2) Reading Readiness Kit contains flash cards, worksheets, color design sheets, geometric forms, formboards, and teacher's guide. 3) Reading Readiness Workbooks Box contains 15 of each workbook and 1 teacher's guide.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: These programs form a comprehensive, sequentially-arranged set of prereading materials designed to develop skills of visual discrimination, auditory discrimination, spatial discrimination and concepts. The workbook on visual discrimination deals with concepts of similarity and difference, learning to discriminate linear forms and the introduction of five letters of the alphabet. The workbook on auditory discrimination presents pairs of familiar words which have different beginning, middle and final sounds, plurals and rhymes, with a picture as the clue. The spatial discrimination workbook presents spatial concepts, such as first, next, last, top and bottom, in and on and directionality. The workbook on concepts covers relationships between objects, inference, predictions and incongruities.

TITLE: Remedial reading series, programmed

NEMIC NO: 20-1-2-1-2/3-(130 thru 188)
CLASSIFICATION NO:

AUTHOR: Sullivan, M.W.

VENDOR: Behavioral Research Lab, 1970
PRICE:

Textbooks	$1.49 ea.
Teacher's Manual	.99 ea.
Test Booklets	.49 ea.
Hard Cover Readers	1.99 ea.
Soft Cover Readers	.99 ea.
Placement Examination	.49 ea.

GRADE RANGE: Remedial reading classes, children to adults

CONTEXT: Teacher works individually with each student at student's own pace.

TEACHER'S MANUAL: One with each Series I-V

CONTENTS AND DURABILITY:

Series I = 4 copies each of Texts 1, 2, 3, and 4
3 copies each of Readers 1, 1a and 1b; 2, 2a and 2b; 3, 3a and 3b; 4, 4a and 4b
Series II = 2 copies each of Texts 5, 6, 7 and 8
1 copy each of Readers 5, 5a, 5b, 6, 7 and 8b
2 copies each of Readers 6a, 6b; 7a, 7b and 8
3 copies each of Reader 8a
Series III = 1 copy of Texts 9, 10, 11 and 12
2 copies each of Readers 9 and 10
1 copy each of Readers 11 and 12
Series IV = 1 copy each of Texts 13, 14, 15 and 16
Series V = 1 copy each of Texts 17, 18, 19 and 20

PROGRESS: Booklet of progress tests with each Series I-V. Placement Examination acts diagnostically to place individual students at the precise point in the learning sequence where he needs assistance.

STATEMENT OF PURPOSE: M.W. Sullivan's Remedial Reading Program is linguistically structured to present the student with consistent development of sound and word recognition, and can be started with a student who has not yet mastered the alphabet. The remedial student must first discover that not only do the letters of the alphabet have "names", but also that the sounds with which he is already familiar have symbols. He can then begin to associate these sounds with written symbols and relate them to words. Another key skill required by remedial reading students is the ability to recognize small differences in similar words, e.g., the difference between "pin" and "pan". The Sullivan Remedial Reading Program is specifically designed to develop this discrimination right from the beginning. As a student proceeds through this program he 1) experiences continuous success in small, relatively cosy tasks, 2) is constantly reinforced in learned knowledge by frequent "reviews" in later material, 3) is easily led from known information into new material, 4) is directly participating in the learning process through many active responses, and 5) always has immediate knowledge of the correctness of his responses to avoid inadvertant "learning" of incorrect information. In addition, each student can proceed through the program at his own speed, thus feeling much more secure in his progress. At the end of Series I, upon the completion of Readers A-B-C-D and Texts 1-2-3-4, the student has a perfect familiarity with the short vowels, all the individual consonants, and all the important initial and final clusters

TITLE: Remedial reading series, programmed

NEMIC NO: 20-1-2-1-2/3-(130 thru 188)

Statement of Purpose (Cont'd)

of two and three consonants, e.g.:
Text 1 and Readers 1-1a-1b = short a,i,o,e
Text 2 and Readers 2-2a-2b = u,y, patterned words with th,ll,sh,ck; long e, w,nk,nt,nd
Text 3 and Readers 3-3a-3b = inch, itch, atch
Text 4 and Readers 4-4a-4b
Following logically and sequentially onward from Series I are Series II, II, IV and V--16 additional books, where the complexity of the sound-symbol relationship is gradually increased and polysyllabic words and more complex sentences are introduced. Logical, sequential approach, with carefully prepared illustrations in both the programmed texts and the correlated readers, makes them interesting and appropriate for children, youths and adults.

TITLE: Remedial training for children with specific disability in reading, spelling and penmanship

NEMIC NO: 5-166
CLASSIFICATION NO:

AUTHOR: Gillingham, A., & Stillman, B.W.

VENDOR: Educators Publishing Service, 1971
PRICE: $12.50

GRADE RANGE: Remedial through high school

CONTEXT: Individual/small group under supervision of teacher

TEACHER'S MANUAL: Yes; teacher needs special training in order to use manual.

CONTENTS AND DURABILITY: Hardcover. Chapter on Growth of Written Language, History of English Language; the first group of letters taught are a,b,f, h,i,j,k,m,p,t. The teacher makes the letter. Pupil traces the letter, copies it, writes it without copy, and writes it with eyes averted. Gradual introduction of new phonograms: g,o,r,l,n,th,u,ch,e,s,sh,d,w,wh, y,v,z. Only first sound is given for consonant letters and short sound for vowel letters which have more than one sound. Double ff, ll, ss spelling rule. Effect of silent final e, syllable concept, soft c and g, alternate sounds for vowels, ild, old words, er, ar, tch, sion, tion. Complete analysis of sound/symbol relationship in English.

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: A phonic approach to the remediation of specific language disabilities. Letter sounds are taught first and are then combined to form words. A multi-sensory method associating visual, auditory and kinesthetic elements is used to simultaneously aid reading, writing

TITLE: Remedial training for children with specific disability in reading, spelling and penmanship

NEMIC NO: 5-166

Statement of Purpose (Cont'd)

and spelling difficulties. A manual contains theory and instructions. Also provided are PHONIC DRILL CARDS (basic phonic sounds in developmental order), PHONETIC WORD CARDS (simple and syllabified words and detached syllables), SYLLABLE CONCEPT CARDS (which are to be cut into syllables and reformed into words by the child), DICTIONARY TECHNIQUE (contains teacher's key for dictionary placement, skeleton dictionary of 7 booklets, 4 envelopes of words to be alphabetized), INTRODUCTION OF DIPHTHONGS CARDS (each card presents a diphthong at the top followed by a list of words containing that diphthong), and LITTLE STORIES (a group of books presenting a series of stories which the child can read as soon as he has mastered some basic phonics principles). A comprehensive program which can be used in full or as a guide to planning remedial activities.

TITLE: Resource materials for teachers of spelling

NEMIC NO: 20-2-3-12-2-26N
CLASSIFICATION NO:

AUTHOR: Anderson, P.S., & Groff, P.J.

VENDOR: Burgess Publishing Co., 1968
PRICE: $3.00

GRADE RANGE: Grades 2-6

CONTEXT: Integrated to regular classroom curriculum

TEACHER'S MANUAL: Curriculum Guide

CONTENTS AND DURABILITY: Spiral softbound edition

PROGRESS: Teacher's evaluation of pupil's progress

STATEMENT OF PURPOSE: Comprehensive resource manual to help teachers plan spelling instruction. It includes overview of past, present and future approaches to teaching spelling; word lists for various grade levels; sample language programs; guides for planning spelling lessons; spelling games and instruction in the teaching of dictionary usage. The bibliography lists supplementary audiovisual materials.

TITLE: Royal road readers

NEMIC NO: 20-1-1-12-2-116
CLASSIFICATION NO:

AUTHOR: Daniels, J.C., & Diack, H.

VENDOR: Educators Publishing Service, 1971
PRICE: $8.40

GRADE RANGE: Pre-primary, primary

TITLE: Royal road readers NEMIC NO: 20-1-1-12-2-116

CONTEXT: Group/individual instruction

TEACHER'S MANUAL: Teacher's Book

CONTENTS AND DURABILITY: All softcover: Book 1 Part 1; Book 1, Part II, Book 2 A; Book 3 A; First Companion Books (set of 8); Miniatures (set of 8); Second Companion Books (set of 3); Third Companion Books (set of 3).

PROGRESS: Standard Reading Tests

STATEMENT OF PURPOSE: A paperbound set of reading books produced in England which utilize the Phonic Word Method. The developmental reading scheme consists of a main course with supplementary readers. Book One is in two separately bound parts and is fundamental to the whole series; Part I is designed to give an understanding of the function of letters in words; Part II continues the process and adds to the child's operational vocabulary by introducing special words in meaningful settings. Book 1, Part 1--designed to give child understanding of the function of letters in words. Material is designed so that as pupil goes from one page to next, he is taking a planned step toward a higher level of skill. Book 1, Part II--continues process and greatly adds to child's vocabulary. Book 2 A--increases in phonetic complexity with subject matter suitable to the younger child. Book 3 A--suitable for younger children. First Companion Books to supplement Book 1, Part 1 (set of 8). Miniatures (set of 8) to accompany Book 1, Part II. Second Companion Books (set of 3) to accompany Book II or Book II A. Third Companion Books (set of 3) to accompany Book III or Book III A.

TITLE: Sights and sounds NEMIC NO: 20-2-2-2-½-82
CLASSIFICATION NO:

AUTHOR: Captioned Films for the Deaf

VENDOR: Office of Education,
PRICE:

GRADE RANGE: Hearing-impaired children, pre-primary and primary grades

CONTEXT: Supervisor with class or small group within a class, or individual pupil.

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: 6 filmstrips; 6 33-1/3 rpm records; 10 test booklets; 1 teacher's manual

PROGRESS: Test booklet for each series. After showing the filmstrip, play the "review sounds" portion of the record. Instead of watching the film, the pupils are to turn to their test booklets and place an "X" on the picture corresponding to the sound played.

TITLE: Sights and sounds

NEMIC NO: 20-2-2-2-½-82

STATEMENT OF PURPOSE: To develop auditory perception in hearing-impaired children by means of auditory and visual association, i.e., records and filmstrips common to environmental situations: ON THE FARM, AT THE CIRCUS, IN THE CITY, AT THE CONCERT, IN THE HOUSE, AT CHRISTMAS.

TITLE: Sight and sound discovery trips

NEMIC NO: 20-3-3-12-2-72
CLASSIFICATION NO: X1

GRADE RANGE: Kindergarten, first grade

VENDOR: Eye-Gate House, 1967
PRICE: $85.00

CONTEXT: To be used with a class. Isolated segments can be used to teach a particular sound or concept or it can be used as an entire unit. Repeated use is recommended by the publisher.

TEACHER'S MANUAL: 1 manual for all eight "trips"

CONTENTS AND DURABILITY: There are eight filmstrips, four records, eighty teaching pictures with explanantions on the back, ten large "teach-a-pix", a workbook and activity song book, with records. Pictures and books are 8" x 11" and on regular paper. Pictures are not mounted and should be kept in sequence.

PROGRESS: 1 activity book (workbook) for all eight discovery trips (units).

STATEMENT OF PURPOSE: To develop hearing and sight perception associated with a given topic, to create positive feelings toward the places and subjects discussed. It is social studies material, to be used as a presentation introducing discussion on a particular subject. There are eight discovery trips--Sounds in the Woods, On the Farm, At the Zoo, By the Sea, At the Circus, At Home, Around Town and of the city. Each consists of a narrated filmstrip and supplementary activities, to be used as the teacher chooses.

TITLE: Sound/order/sense developmental program

NEMIC NO:
CLASSIFICATION NO:

AUTHOR: Semel, Eleanor.

VENDOR: Follett Educational Corporation, 1970

GRADE RANGE: Primary level, grades 1 and 2. Also with older children who have perceptual difficulties and for special education classes.

CONTEXT: Designed for use with entire class, may also be used with small groups or individually. Calls for only 15 minutes a day practice.

TITLE: Sound/order/sense developmental program NEMIC NO:

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY:
Level 1: 96-page teacher's guide; 160 Activity Cards; 5 33-1/3 rpm records; 36 crayon markers; 80-page Pupil's Response Book I, Level 1; 80-page Pupil's Response Book II, Level 2; Box of 36 crayon markers.
Level 2: 96-page teacher's guide; 160 Activity Cards; 6 33-1/3 rpm records; 36 crayon markers; 80-page Pupil's Response Book III, Level 2; 80-page Pupil's Response Book IV, Level 2; Box of 36 crayon markers.

PROGRESS: Response books printed with "Write and See" process provides instant feedback to both pupil and teacher. Simple shapes and designs are used instead of pictures, words, or written responses because they can be interpreted by all children, including those who have inadequacies in dealing with words, pictures, or writing. The patterns depict visually and logically what the ear hears, without the use of graphemes of written language.

STATEMENT OF PURPOSE: Organization: Developmental SOS is a comprehensive program for training auditory perception organized around a three-stage schema of auditory processing.
Stage 1: Responding to stimuli. Involves the following processes: Awareness, Focus, Figure-ground Discrimination.
Stage 2: Organizing the Stimuli. Involves the following processes: Sequence and Synthesizing, Scanning.
Stage 3: Understanding the Meaning: Involves the following processes: Classification, Integration, Monitoring.
Memory is involved in all three stages of Auditory Processing.
Approach: SOS is divided into two levels, each one planned for a school year. Level 1 should be used with first graders. Level 2 should be used only after Level 1 has been completed. Each level contains 160 daily lessons, each of which is planned for approximately 20 minutes: 5 minutes for exercises in listening for sounds, 5 minutes for exercises in listening for order (sequence), 5 minutes for exercises in listening for sense (meaning), and 5 minutes for activities that include listening for sounds, order, and sense. The Sound Tasks stress auditory discrimination and figure-ground perception. Throughout these activities, the children must make judgments about whether words and sentences, presented in pairs or groups, are the same or different or where they hear a particular sound in a word. The word pairs have minimal differences in initial and final phonemes, and the sentence pairs differ in only one word--usually in a single phoneme. Some sentences are read by the teacher against the background of a record of environmental sounds so that children get additional practice in figure-ground perception. The Order activities emphasize auditory, memory and sequence; e.g., children listen for a word that does not fit, i.e., teacher says--book, eat, rock, flig; children mark "flig"

TITLE: Sound/order/sense developmental program — NEMIC NO:

Statement of Purpose (Cont'd)

in their response books. The Sense activities teach simple geometric forms--circle, square, triangle, and rectangle--and such basic concepts as plurals; not; small and big; smaller and bigger; and smallest and biggest; top and bottom; least and most; in and on; over and under; next to; between; around; long and short; left and right; above and below; and in front of, e.g., Response Book: "Mark the ones that are not squares".

TITLE: Sound/order/sense, remedial program

NEMIC NO:
CLASSIFICATION NO:

AUTHOR: Semel, Eleanor.

VENDOR: Follett Educational Corporation, 1971

GRADE RANGE: Primary Level--grades 1 and 2

PRICE: Price when published, Spring, 1971

CONTEXT: Use with entire class, small groups, or individually

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: Three Pupils' Response Books: one for Sounds, one for Order, one for Sense; One Teacher's Guide; Box of 36 crayon markers.

PROGRESS: Invisible ink writing process--provides teacher and pupil with instant feedback.

STATEMENT OF PURPOSE: The Remedial SOS Program is designed for children with auditory perceptual problems who require more extensive practice than that presented in the SOS Developmental Program. Unlike the response books in the developmental program, sound, order, and sense are not taught on the same page in the remedial program. Each book deals with a single area--one book for practice in listening for sounds, one book for practice in listening for order, and one book for practice in listening for sense. Each page of the remedial books contains nine tasks. The books may be used for both Level 1 and Level 2 pupils. Requires 10 minutes of practice a day.

TITLE: Sounds and patterns of language

NEMIC NO:
CLASSIFICATION NO:

AUTHOR: Martin, B., et al.

VENDOR: Holt, Rinehart, and Winston, 1966

GRADE RANGE: Pre-primary, primary, linguistically disadvantaged children

PRICE: $172.00 complete

TITLE: Sounds and patterns of language NEMIC NO:

CONTEXT: Individual or small group, with teacher supervision

TEACHER'S MANUAL: One copy Teacher's Guide

CONTENTS AND DURABILITY: Materials stored in a 2-drawer cardboard chest, 9" x 12" x 24":
6 background scenes, 24" x 36"
124 magnetized cutout characters
35 magnetized language pattern cards
80 magnetized blank cards
easel display board, 25" x 37", steel front to which magnetized characters adhere

PROGRESS: Teacher evaluation

STATEMENT OF PURPOSE: A Life-related Oral Language Program that gives young children sequential experiences in expressing their own thoughts and feelings. An Oral dimension: Six scenes in life-related posters act as stimuli to encourage conversation linking oral expression and visual experience. Develops visual and verbal discriminations: Children create and develop their own stories by putting magnetized figures and objects into the picture posters--encourages critical and creative thinking.

TITLE: Sound and spelling in English

NEMIC NO: 20-2-3-12-2/3-28
CLASSIFICATION NO:

AUTHOR: Hall, R.A., Jr.

VENDOR: Chilton Book Co., 1961
PRICE: $1.20

GRADE RANGE: Written for teacher, supervisor, etc.--for educators within education.

CONTEXT: For reader

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: 1 manual--soft cover

STATEMENT OF PURPOSE: Stresses primacy of speech over writing. Must first know what are the sounds of English and then see to what extent they are represented in spelling. Discussion of the technical terms, phoneme, grapheme and morpheme, as units of analysis for the English spelling system.

TITLE: Sounds I can hear

NEMIC NO: 20-2-6-12-2-25
CLASSIFICATION NO:

AUTHOR: Nichols, R.G.

VENDOR: Scott, Foresman and Company, 1966
PRICE: $15.00

GRADE RANGE: Pre-primary, primary

CONTEXT: Teacher-class, teacher-small group within class

TEACHER'S MANUAL:

CONTENTS AND DURABILITY: 4 volumes, each containing a 7" vinylite record, 33-1/3 rpm, 10 large full-color photographs, 1 large picture chart that brings the photographs together in their appropriate setting--home, zoo, farm, neighborhood, school.

PROGRESS: Pupil's response

STATEMENT OF PURPOSE: A set of records and visual aids (10 color photographs of persons, animals, or objects heard on the records accompany each album), to broaden the acquaintance of very young children with a host of objects and animals, and help them relate sounds to their sources. This is particularly valuable for children whose vocabularies are impoverished and whose experiences are limited. This set encourages: attentive listening for the purpose of identifying sounds, practice in auditory discrimination, combining auditory images with visual images (records, picture cards), exercising memory based on association, expressing ideas orally in response to narrator's questions concerning similar personal experiences.

TITLE: Sounds of language readers

NEMIC NO: 20-1-4-12-2-99
CLASSIFICATION NO:

AUTHOR: Martin, B., Jr., et al.

VENDOR: Holt, Rinehart and Winston, 1966
PRICE: $14.40

GRADE RANGE: Pre-primary to Grade 3

CONTEXT: Individual/group

TEACHER'S MANUAL: Annotated Teacher's Editions

CONTENTS AND DURABILITY: 5 hardbound textbooks: Sounds of Home (preprimary); Sounds of Numbers (primary); Sounds Around the Clock; Sounds of Laughter; Sounds of the Storyteller.

PROGRESS: Student progress at individual rate

STATEMENT OF PURPOSE: The Sounds of Language Readers are based on the premise that reading should be taught as a total linguistic experience, and sentence sounds are more important than word sounds. The series contains an attractive

TITLE: Sounds of language readers NEMIC NO: 20-1-4-12-2-99

Statement of Purpose (Cont'd)

and refreshing collection of poems, stories, articles and pictures with accompanying annotated Teacher Editions.

TITLE: Smile

NEMIC NO:
CLASSIFICATION NO:

GRADE RANGE: Pre-primary, primary

VENDOR: Jeri Productions,
PRICE: $15.00 for set of 3 albums

CONTEXT: Individual/group instruction

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: Series of three 7" two-record albums on 33-1/3 rpm vinylite with 12" x 14" illustrations of Mr. Happy Clown and Mr. Sad Clown.

Album I = I'm a Happy Little Circus Clown (for the cheeks)
The Apple Song (for the cheeks)
The Little Bunny Rabbit (for the nose)
Seesaw Margery Daw and Old Charlie the Pirate (for the s sounds, s-z, sh-zh, ch-j)

Album II = The Little Gray Pony (for the lips)
Whiffie Wiffie (for the lip sounds wh-w)
Pussycat Pussycat (for the lip sounds m-p-b-f-v)
I'm a Happy Little Circus Clown (sung with LAH for the tongue sounds)
Little Tommy Tittlemouse (for the tongue sounds l-n-t-d)
North Wind (for the tongue sounds th as in thin and th as in thine)

Album III = I'm a Little Lazy Pony (for the lower jaw and soft palate)
Baa Baa Black Sheep (for the vowel sounds)
Ride a Cock Horse (for the k sounds k-g-h-y-r-ng)
The Belt Song (for the waistline muscles)
Hey Diddle Diddle (for speaking loudly, softly and whispering)

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: A series of three 7", two-record albums at 33-1/3, vinylite, the contents of which emphasize correct patterns of muscle behavior through song and rhyme. Album I: emphasizes cheek and nose muscles and s and s-blend sounds; Album II: emphasizes lip, tongue and associated sounds; Album III: emphasizes lower jaw, soft palate, waistline muscles, vowel sounds and voice quality.

TITLE: Speech-to-print phonics: a phonics foundation for reading

NEMIC NO: 20-2-5-12-2-34
CLASSIFICATION NO:

AUTHOR: Durrell, D.D. and Murphy, Helen.

VENDOR: Harcourt, Brace and World, Inc., 1968

GRADE RANGE: Primary and intermediate

PRICE: $24.00

CONTEXT: As a supplement to reading curriculum--class/individual

TEACHER'S MANUAL: One Teacher's Manual--55 lessons in relating phonemes in words to their printed forms

CONTENTS AND DURABILITY: 233 Applied Phonics Practice Cards; Pupil Response Cards--34 sets of letters, blends, yes-no, and number cards

PROGRESS: Teacher evaluation of pupil response

STATEMENT OF PURPOSE: A phonics series which builds reading, language and word-analysis skills.

TITLE: Spelling and writing patterns (grades 1-6)

NEMIC NO: 20-2-3-12-2-25
CLASSIFICATION NO:

AUTHOR: Botel, M.

VENDOR: Follett Publishing Co., 1964-66

GRADE RANGE: Grades 1-6 (A-F)

PRICE: $32.64

CONTEXT: Individual/group

TEACHER'S MANUAL: Yes; for each level (A-F)

CONTENTS AND DURABILITY: Book A, Pupil, Demonstration Kit A: contains felt-backed cards (for flannelboard or pocket chart) representing capital and lower-case manuscript letters and numerals, 5" model letters for teaching handwriting, word patterns, sentence patterns, and written expression patterns and a chalkboard guideline template.
Book B, Pupil (Grade 2): Tests to accompany Book B, plus Written Expression Masters. Demonstration Kit B: The contents are similar to those in Kit A, except the model letters represent cursive symbols. Book C, Pupil (Grade 3), Demonstration Kit C. Book K, Pupil (Grade 4). Book E, Pupil (Grade 5). Book F, Pupil (Grade 6). Multi-Level Test Book, Pupil: contains pretest and final test forms for Books B-F, and a permanent record of spelling growth; spirit duplicating masters are available in lieu of the Test Book. 3,140 Important Words, Pupil: Reviews A-F as a remedial program. 1,620 Power Words, Pupil: Extends and enriches spelling ability.

PROGRESS: Teacher determines progress.

TITLE: Spelling and writing patterns (grades 1-6)

NEMIC NO: 20-2-3-12-2-25

STATEMENT OF PURPOSE: This program centered in language arts builds skills in reading, English usage, handwriting and composition, as well as spelling. A multi-level, nongraded approach is provided through a built-in Basic Program (including tests, spelling lists, word patterning, sentence patterning, and written expression), Refresher Program (for slower pupils), and a Power Program (for abler pupils) (Levels B-F). Demonstration kits are available for Levels A, B, and C; provide materials utilizing visual and kinesthetic senses.

TITLE: Spelling workbooks

NEMIC NO: 20-2-3-12-2-(20 and 21)
CLASSIFICATION NO:

AUTHOR: Plunkett, Mildred., & Peck, Caroline Z.

VENDOR: Educators Publishing Co., 1971
PRICE: $4.10

GRADE RANGE: Grades 2-12

CONTEXT: Individual/group

TEACHER'S MANUAL: Instructions within text of workbooks

CONTENTS AND DURABILITY: Four softbound workbooks--instructions within text of workbook

PROGRESS: Teacher instruction

STATEMENT OF PURPOSE: A set of four graded workbooks, 8½" x 11", based on Gillingham & Stillman's Remedial Training for Children with Specific Disability in Reading, Spelling and Penmanship which presents the procedure for using the visual, auditory and kinesthetic approach in remedial teaching, based on the theory advanced by Dr. Samual Orton.

1. Spelling Workbook for Early Primary Corrective Work: Book I, (Grade 2)
Presented are 300 words from the Gates' word lists; cursive letter forms are used.

2. Spelling Workbook for Early Primary Corrective Work: Book II, (Grade 3)
A workbook which presents third grade level words of Gates' word list; cursive letter forms are used. Phonetic elements in the words are emphasized and an attempt is made to use them in context.

3. Spelling Workbook for Corrective Drill for Elementary Grades, (Grades 4-6)
Lessons presented assist those having difficulty in visual recall of word configurations. "Phonetic drills, kinesthetic reinforcements together with visual stimuli of word groupings are the means employed to further the learning process in getting the correct order of letter symbols." Also presented are spelling rules, generalizations which can be made in relation to letter combinations and syllabication.

4. Spelling Workbook Emphasizing Rules and Generalizations for Corrective

TITLE: Spelling workbooks

NEMIC NO: 20-2-3-12-2-(20 and 21)

Statement of Purpose (Cont'd)

Drill, (Grades 7-12). Vocabulary list is "ungraded". The workbook lessons are presented according to the divisions: phonetic drill, spelling generalizations, spelling rules, syllable concept and pronunciation symbols.

TITLE: Structural reading series

NEMIC NO: 20-2-2-12-2-102
CLASSIFICATION NO:

AUTHOR: Stern, Stern, Gartler, Gould

VENDOR: Singer/Random House, 1966
PRICE: $6.00 (workbooks & Teacher's Guides)

GRADE RANGE: Grades 1-2

CONTEXT: Individual/group

TEACHER'S MANUAL: Yes

CONTENTS AND DURABILITY: Paperbound workbook P,A,B,C,D,E.

PROGRESS: Child works at own pace--teacher assistance when needed

STATEMENT OF PURPOSE: A systematic, level-by-level progressive program, the Structural Reading Series introduces meaningful materials to convert non-readers into successful readers. All words are analyzed first on the spoken level, and represented in the workbooks by letters of the alphabet. The child will learn the connection between spoken and printed structured relationships, and thus will not have to memorize new words but will decode them through analysis.
Workbook outline is as follows: Workbook P: Introduces child to relationships between sounds and letters. Workbook A: Extends understanding between initial sounds and letters. Workbook B: Develops decoding skills through analysis of linguistically regular monosyllabic words. Workbook C: Develops decoding skills through analysis of initial and final consonant blends and long vowel sounds in linguistically regular monosyllable words. Workbook D: Develops decoding skills through analysis of common structural characteristics in groups of linguistically irregular words. Workbook E: Extends and enriches analysis of common structure in groups of words.

TITLE: The way it is

NEMIC NO: 20-1-1-12-2-98
CLASSIFICATION NO:

AUTHOR: Balish, H., &
Patai, Irene.

VENDOR: Xerox Corporation, 1968
PRICE: $97.50 complete set

GRADE RANGE: Grades 8 to 10

TITLE: The way it is NEMIC NO: 20-1-1-12-2-98

CONTEXT: Individual or small groups; however, there will be selected stories where it is recommended that the whole class should participate.

TEACHER'S MANUAL: Teacher's Handbook--hard yellow plastic cover (1 copy)

CONTENTS AND DURABILITY: All books are in a display case.
Book 1 = Day Comes After Night (30 copies)
Book 2 = O.D. (6 copies)
Book 3 = Make Your Move (6 copies)
Book 4 = No Way to Go (6 copies)
Book 5 = Rumble Tonight! (6 copies)
Book 6 = Breaking Out (6 copies)
Book 7 = Catch the World (10 copies)
Book 8 = Keep the Cool (10 copies)
Book 9 = Waiting for the Man (10 copies)
Book 10= Face It, Baby (10 copies)
Learner Log (30 copies) in display case
Record Album--5 12" records

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The Way It Is is a high impact, motivated reading program for youngsters in overcrowded, depressed areas who don't read or won't read. Filled with stories about people, problems and situations familiar to inner-city teenagers, it gives them opportunities for self-expression and involvement. The learner will be able, with increasing decision, to state and analyze problems and their causes, to list alternative solutions and to select one or more appropriate courses of action. Another major objective--that the learner will read one or more non-required newspapers, magazines, or books written at a higher concept level than the non-required printed material he read previously.
Along with the books, The Way It Is includes a Learner Log for each student, an album of five records on which ten of the most gripping stories are vividly brought to life, and a detailed Teacher's Handbook. The Learner Log contains guided activities for the 27 stories in the first six books, and motivates him to read and helps him think about and analyze what he has read. The Teacher's Handbook covers the first six books and provides 27 detailed lesson plans, procedures and activities that have proven extremely effective.

TITLE: Training fun with writing

AUTHOR: Brenner, Pearl J., &
Lantzer, J.N.

GRADE RANGE: Graded by age

CONTEXT: Individual/group

NEMIC NO: 20-2-4-12-2-3
CLASSIFICATION NO:

VENDOR: Mafex Associates, Inc., 1967
PRICE: $1.50/book

TITLE: Training fun with writing NEMIC NO: 20-2-4-12-2-3

TEACHER'S MANUAL: None

CONTENTS AND DURABILITY: 6 (2 copies each) instruction and work manuals

PROGRESS: Teacher determines progress.

STATEMENT OF PURPOSE: A series of six age-graded workbooks designed to develop writing skills in "children with learning disabilities". An activity program is presented, the authors state, "reinforced through student performance, presented with specific teacher plans on each page". The material is suggested for use with exceptional children having IQ's of 35-50.
Book I presents visual forms, learning colors and beginning printing.
Book II presents drill and repetition with letter printing plus beginning experiences of putting letters together to form words and sentences.
Book III presents exercises for full utilization of the printing of words and sentences.
Book IV introduces cursive writing.
Book V contains further exercises in cursive writing with drill in word formations.
Book VI presents cursive writing in words, sentences, and stories.

TITLE: Training in some prerequisites for beginning reading NEMIC NO: 20-1-2-12-2-47
CLASSIFICATION NO:

AUTHOR: Slingerland, Beth. VENDOR: Educator's Publishing Service, 1971

GRADE RANGE: Pre-primary to primary PRICE: $8.00

CONTEXT: Teacher with class, or small group within a class, or individual pupil

TEACHER'S MANUAL: One copy

CONTENTS AND DURABILITY: Portfolio of 94 photographs on heavy cardboard backing; Teacher's Guide

PROGRESS: Teacher's evaluation of student progress

STATEMENT OF PURPOSE: The games and exercises suggested in the Teacher's Guide are designed to give young children of varying degrees of reading readiness specific practice in particular language areas: speech, auditory recall, visual recall, kinesthetic recall and left-right orientation. Any one of these areas may be used as a separate entity, and all of them include practice in comparison, in discrimination between differences and similarities, and in self-expression through clearly expressed and enunciated

TITLE: Training in some prerequisites for beginning reading

NEMIC NO: 20-1-2-12-2-47

Statement of Purpose (Cont'd)

words in correctly constructed sentences.
Picture Folder contains pictures to be used in games that:
1) build vocabulary, through discussion of pictures; 2) provide practice in matching, classification, contrasting likes and dislikes; 3) prepositional phrases, use of adjectives, singular and plural nouns; 4) geometric plane figures and linear drawings; 5) orientation, left-to-right sequencing, before-and-after sequencing.
The Teacher's Guide suggests methods of using the Picture Folder to attain proficiency in the aforementioned areas.

TITLE: True tone bells

NEMIC NO: 20-4-1-12-3-31
CLASSIFICATION NO:

AUTHOR: Educational Teaching Aids

VENDOR: A. Daigger and Co., 1968
PRICE: $77.75

GRADE RANGE: Pre-primary to primary

CONTEXT: Teacher-class or group within class

TEACHER'S MANUAL: Paper--2 pages

CONTENTS AND DURABILITY: Series of 13 notes in chromatic octave, with wooden hammer. Half-note bells have black stands.

PROGRESS: Pupil response

STATEMENT OF PURPOSE: The direct aims are three, 1) discrimination of musical tones, 2) sharpening the sense of hearing, 3) introduction of the scale. The indirect aims are to help the child become aware of musical sounds in the environment and learn a musical vocabulary.
Procedure--invite child to play the bells and draw his attention to contrasting sounds. Strike C and C sharp and invite child to hear the contrast between two sounds. Then go up the scale.

TITLE: Visual discrimination skills

NEMIC NO: 20-3-3-12-1-70
CLASSIFICATION NO:

AUTHOR: Venditti, F., & Murray, Evelyn.

VENDOR: Millikin Publishing Co., 1969
PRICE: $6.95

GRADE RANGE: Pre-school, kindergarten

CONTEXT: Teacher with whole class or a small group within the class

TEACHER'S MANUAL: First 5 pp. of book

TITLE: Visual discrimination skills NEMIC NO: 20-3-3-12-1-70

CONTENTS AND DURABILITY: 1 softcover book with transparencies and worksheets included.

PROGRESS: Examination of child's worksheets

STATEMENT OF PURPOSE: To teach Visual Discrimination Skills. Pre-requisites: experience with concrete objects and materials, i.e., handling toys, puzzles, etc. Teaching procedure: the teacher, by means of projecting the transparency, illustrates corresponding worksheet procedures to pupils, e.g., teacher colors apple transparency red, pupils color apple on their worksheet red. Skills covered: Color Discrimination--pupils identify teacher-colored objects of projected transparency; pupils duplicate by coloring same object same color on worksheet. Noting Shapes--match worksheet object to object projected on transparency. Reproducing Visual Skills--pupils copy object, e.g., a ball, in their worksheets from the object displayed by the projected transparency.

TITLE: Words in color NEMIC NO: 20-1-1-12-2-(117 thru 124)
20-1-1-12-2-138

AUTHOR: Gattegno, C. CLASSIFICATION NO:

GRADE RANGE: First-graders, slow learners, emotionally disturbed, and adults considered functionally illiterate VENDOR: Xerox Corporation, 1968
PRICE: $145.00

CONTEXT: Teacher with class; or individual pupil's tests

TEACHER'S MANUAL: One copy of Teaching Reading in Color
One copy of Background and Principles of Words In Color

CONTENTS AND DURABILITY:
2 copies Word Cards
2 copies Word Charts 1-21
2 copies Eight Phonic Code Charts
3 copies Word Building Book
1 copy Worksheets 1-7
1 copy Worksheets 8-14
1 copy Book I
4 copies Book II
4 copies Book III
2 copies Book of Stones

PROGRESS: Strategically located in Workbooks 1-14. Allow teacher to ascertain learning progress of students.

TITLE: Words in color

NEMIC NO: 20-1-1-12-2-(117 thru 124)
20-1-1-12-2-138

STATEMENT OF PURPOSE: Words in Color introduces each of the 47 sounds of English in a distinct color. The 280 signs, or graphemes, of English are colored according to how they sound in a given word. (Each sound is always identified by its own color regardless of how the sound is spelled. Color is used ONLY TO INTRODUCE sounds and words.) Immediately after each introduction, the pupil reads and writes in black-on-white. Transfer is instant. Learning to read and write becomes a single, cohesive and comprehensible experience. On the average, most young learners can master the program in 35 or 40 lessons (8 weeks). Once the program has been completed and tests administered to determine the reading levels attained, the teacher can select the proper individualized reading materials for the children.

Charts 1 to 21 (colored) = progressively introduce the sounds of English beginning with the most regular spellings and proceeding through virtually all the regular and irregular signs of the language.

Phonic Code (8 charts in color) = systematically organizes the signs (spellings) occurring in English. Four charts present the vowel sounds with their varied spellings; four charts present the consonants with their varied spellings.

Word Cards = introduce words representing different parts of speech. Each part of speech is printed on a card of a special color. By putting words together into sentences, learners discover the structural elements of complete sentences.

Components/for Each Learner:

Book 1 = introduces the learner to five vowel sounds (short)--a, u, i, e, o--and these consonants--p, t, s, s(z)--and the words and sentences that can be made by combining these sounds and images.

Book 2 = acquaints the learner with the regular spellings of vowels and consonants and with many examples of words and sentences.

Book 3 = enables the learner to read and write the irregular spellings of the sounds in the Phonic Code.

Word Building Book = progressively introduces the sounds of English until the entire Phonic Code has been presented.

Book of Stories = gives pupils practice in reading after they have completed Book 2.

Worksheets 1-14 = enable pupils to manipulate the language they are learning by providing challenging exercises based on class work, on Books 1, 2, 3 and on the Book of Stories.

(All of the learner books and worksheets are printed in black-on-white.)

Components/for the Teacher:

Background and Principles = explains the approach, how it originated,

TITLE: Words in color

NEMIC NO: 20-1-1-12-2-(117 thru 124)
20-1-1-12-2-138

Statement of Purpose (Cont'd)

and the principles of learning on which it is based.

Teacher's Guide = describes the teaching methods with detailed suggestions for the content and sequence of lessons.

Words in Color in the Classroom= a planning aid which provides a daily summary of the activities for each lesson.

TITLE: A writing manual for teaching the left-handed

NEMIC NO: 20-2-4-12-2-6
CLASSIFICATION NO:

AUTHOR: Plunkett, M.B.

VENDOR: Educators Publishing Service, 1971

GRADE RANGE: Primary

PRICE: $1.80

CONTEXT: Individual

TEACHER'S MANUAL: Curriculum Guide

CONTENTS AND DURABILITY: Softbound workbook

PROGRESS: Individual rate of progression

STATEMENT OF PURPOSE: Cursive writing is taught to the left-handed by methods which take into consideration body position and slant, alignment, and spacing of writing. A student exercise pad accompanies the manual. A sheet containing guidelines is provided which is placed beneath the writing paper to guide spacing and slant.

TITLE: The writing road to reading

NEMIC NO: 20-1-1-12-2-72
CLASSIFICATION NO:

AUTHOR: Spalding, Romalda B., & Spalding, W.T.

VENDOR: William Morrow & Co., 1970

PRICE:

GRADE RANGE: Elementary grades

CONTEXT: Adapted to regular classroom curriculum

TEACHER'S MANUAL: The Writing Road to Reading is a curriculum guide.

TITLE: The writing road to reading NEMIC NO: 20-1-1-12-2-72

PROGRESS: Teacher's Evaluation

STATEMENT OF PURPOSE: The Writing Road to Reading is an excellent source of activities to teach sound recognition through writing. It is especially good for the child who requires kinesthetic information to reinforce auditory information. It covers reading, writing and spelling simultaneously and is taught in 9 steps:
1) Phonograms are taught by having pupils say one or more sounds of each one and then writing them, thus uniting visual, oral and kinesthetic functions.
2) Child learns letters by phonetic sounds only, not by their names until later.
3) Phonograms containing two or more letters are called by "sound" and child is taught to identify every phonogram in a word.
4) Accurate pronunciation and correct handwriting.
5) Words are dictated, child pronounces each phonogram in word, then writes it.
6) Basic spelling laws and exceptions are taught and child applies spelling laws to each new word he writes.
7) Dictionary is referred to when no rule governs choice of which phonogram to use.
8) Teacher and pupils analyze sound of spoken word and its written symbols and they learn to spell.
9) Reading is started when child has learned enough common words to comprehend meaning instantly.

TITLE: Zweig-Bruno stereo tracing exercise

NEMIC NO: 20-2-2-12-2-136
CLASSIFICATION NO:

AUTHOR: Zweig-Bruno

VENDOR: Keystone View Co., 1971
PRICE: $128.20

GRADE RANGE: Students who have language difficulties associated with mixed or crossed dominance

CONTEXT: Individual/group

TEACHER'S MANUAL: Instructions Manual

CONTENTS AND DURABILITY: Softbound instruction manual--language development; visual tracing test record forms; softbound instruction manual--visual tracing; plastic visual tracing test forms; softbound instruction manual--delacato stereo-reader; eye-hand coordination tests; 3 pads: stereotracing work sheets; 1 pad eye-hand coordination work sheets; 3 pads: exercise sheets for Keystone stereo-reader.

PROGRESS: Teacher determines student(s)'s progression.

TITLE: Zweig-Bruno stereo tracing exercise NEMIC NO: 20-2-2-12-2-136

STATEMENT OF PURPOSE: A preparation-for-writing program to develop eye-hand coordination and directionality. Leads the child from the tracing of straight line patterns through curved figures to cursive writing forms. Designed for use with the Keystone Stereo-Reader, Office Correct-Eyescope, and Opaque Correct-Eye-Scope.

INTRODUCTION TO MATHEMATICS

Joan Rines Needleman Ed. D.

INTRODUCTION TO MATHEMATICS

All children come to school with a background of experience. How each one develops in school will depend upon the quality and variety of preschool activities, the ability of the child to communicate his ideas to an adult, and the quality of the language used. Therefore, the preschool and primary training in mathematics for all children should be devoted to enriching these backgrounds and to correcting any mathematical misconceptions. Practical experience with concrete objects should be provided which relates to the vocabulary and experiences needed for further development.

Since children with learning disabilities are often shown to be early talkers, and show well, verbally, on standardized tests, it appears that they should have a potential for success greater than that of the average child. Their development in the fields of mathematical skills, therefore, should not be treated differently than is the development of other children. There should, however, be more awareness of the particular difficulty of a particular child. For that reason, it is important that the teacher of the child with learning disabilities be able to distinguish between what problems a normal child faces in the learning of mathematical skills, and what problems are specific to the child with learning difficulties.

This chapter will draw from pedagogical procedures presently adapted to the teaching of all children, and attempt to specify those skills or concepts in the attainment of which normal children have difficulty.

Reference will be made to some of the mathematical deficiencies attributed to children with learning difficulties (Johnson and Myklebust, 1967) to explain these concepts, to discuss normal performance in their acquisition, and to suggest remedial techniques and materials for those needing additional assistance.

Goals of Mathematics Programs in the '70's

In outlining a series of activities for the arithmetic student of the 1970's, attention must be directed to an analysis of the goals of the arithmetic program and how it has changed from the traditional arithmetic teaching of prior years. Since the teacher of the perceptually handicapped is not usually a student of mathematics, it is particularly important that these goals be redefined for such a teacher. The difficulties encountered by students of prior years in their arithmetic studies can be enumerated: signs and symbols were introduced prematurely; tricks and techniques were used and taught by rote; inadequate attention was given as to whether the students understood the vocabulary of mathematics or the terminology employed in word problems; and there was little or no attempt made to unify mathematics by relating quantities, processes, or different topics. Furthermore, children were pushed in lock-step fashion from one year to another, from a lower concept to a higher one, without ever having attained the prerequisite basis for further progress.

In the world of computers, computer programs, and of the systems approach to the industrial world, the most important task of the school is to teach the child to think for himself. This is true for the child with learning disabilities as well as for the average child. The modern program is planned with this goal in mind.

Today, a child is encouraged to explore and discover, to obtain practical experiences by handling materials and equipment, to analyze relationships, to find patterns and, before encountering symbolic processes, to generalize from specific practical experiences. This makes mathematics a subject which, even if it may prove to be difficult, has, at least, provided the child with a framework within which he can reason. Furthermore, the mathematics curriculum is spiral: that is, the same concept may be introduced each year in a different way and with a different scope. Ideally, each child will be allowed to progress through this spiral, relative to the several concepts, at his own rate of speed. This program, therefore, should enable children with learning disabilities to succeed sooner and more easily than in the past, without the traumatic sensation of failure.

The Modern Mathematics Programs

The twenty-fourth yearbook of the National Council of Teachers of Mathematics, Growth of Mathematical Ideas, K-12, 1959, discusses ten key ideas, strands which are interwoven throughout this spiral curriculum:

1) Sets, number, and numeration
2) Properties of numbers underlying mathematical procedures
3) Structural relationships
4) Mathematical symbols and sentences
5) Measurement
6) Non-metric and metric geometry
7) Estimation
8) Approximation
9) Statistics
10) Proof

Many programs have been developed since 1955 to update the elementary school mathematics program. Some are referred to in Discovering Meanings in Elementary School Mathematics by Grossnickle et al., 1968. It is suggested that to supplement their knowledge, teachers examine these programs and others not specifically detailed therein. This chapter is not intended to provide a course in elementary mathematics instruction; it can only highlight some of the most important concepts.

SET THEORY

The set concept is one of the basic and unifying concepts of modern mathematics. A set is a collection of things. Things that belong to sets are called members or elements of sets. Elementary children are familiar with the term. They are always dealing with sets of toys, sets of dishes, or sets of books. The concept also embraces sets of numbers. At first, the child learns of counting numbers, later, of whole or natural numbers, odd and even numbers, rational numbers (fractions), integers (positive whole numbers and their opposites) and, finally in later years, of irrational numbers (e.g., π), real numbers, and complex numbers. The concept of set thus unifies these separate sets of numbers and permits instruction to be sequential without the need for unlearning.

The elementary teacher therefore, first introduces the concept of SET into the classroom, totally without reference to numbers. The class consists of a set of children, a subset of boys and a subset of girls. The set of animals includes subsets of cats and dogs; two sets can be compared for the larger number of elements: since there are more cats than dogs, the set of cats is larger than the set of dogs. There are no elephants in the room; therefore, the set of elephants is the empty set. Such classroom references are suggested, for example, in Guiding Discovery in Elementary School Mathematics by Riedesel, 1967, and in the Nuffield materials.

Intersection of Sets

Sets can be recognized by specific common characteristics: a set of red toys or a set of brown-haired children; or members can be defined to be part of a set: e.g. a set consisting of this hat, coat, and book. An object can, also, have two characteristics: it can be red and it can be a toy with wheels. A circle can be drawn or made with string to include all red objects; all toys with wheels can be put into another circle. The two circles will intersect, and the enclosed area will include all the red toys with wheels (the intersection of the sets). Similar games can be suggested by the elementary teacher to introduce children to the concept of SETS and SUBSETS. Any materials at hand can be employed. Several materials in the bibliography can also be used. Other suggestions to allow the children to explore the concept of sets can be found in any book on elementary mathematics instruction.

Suggested Materials

Attribute Blocks McGraw-Hill NEMIC NO: 20-8-1-12-½-90

Additional Materials:

(Make your own notes.)

With sets as a point of departure, the teacher of children with learning difficulties can encourage the discrimination of properties common to objects. Colors, sizes, shapes, textures, with which the child may have difficulty, can be selected, in turn, as common characteristics. This leads naturally into the number of elements as an additional common characteristic of sets.

Suggested Materials

Flip and Build
Peg Numbers

NEMIC NO: 20-3-3-5-2-10
20-8-1-12-½-51N

Additional Materials:

Once the concept of set has been introduced, a child can begin to acquire an awareness of the common property of two hands, two feet or two ears. This relates his earliest experiences with number. This experience is now put into a framework within which he can begin to recognize the concept of TWONESS. This recognition of the concept of twoness for concrete objects is followed by his recognition of twoness in sets of two objects represented in a picture: two balls or two trees. The name of "two" is given to the number two, and the numeral "2" is written to indicate that there are two elements in the set.

Suggested Materials

Arithmetic Board
Beginners Number Poster Cards

NEMIC NO: 20-8-1-(2,4,6,8)-½-35
20-8-1-12-1-74

Additional Materials:

This cardinal number of two is obtained when a set of objects is counted: "one, two", the last number named being the cardinal number of the set. This counting is done by what is called "matching" the objects counted with the set of counting numbers. The child can put the objects in another set in one-to-one correspondence with the elements of the known set, i.e., match them to each other, one by one. He will then know that the sets have the same number of things in them, even without counting.

Sets: Equivalent, Equal, Greater Than

The child then begins to distinguish between the cardinal number "2" of a set of two objects and the number "3" for a set of three objects. The teacher should understand that when two sets have the same number of elements or members or things, they are said to be equivalent. The child recognizes this equivalence by understanding that the sets have the same cardinal number "2", and that the nature of the objects (their color, shape or size) has nothing to do with the cardinality of the set.

When the child learns to match (put in one-to-one correspondence) the objects of one set with another, the child can then tell if there are the same number of objects in each set.

Let us digress for a few minutes, however, as to what the term SAME NUMBER means to a child. And we are here talking of average children, not of children with learning difficulties. He can know there are the same number of chairs and pupils without counting chairs or pupils, for example, if he sees one pupil in each chair, and the pupils are all seated and the chairs are all filled. But, there are very important questions as to what the child means when he says, "there are the same number." Jean Piaget and his colleagues have done some very interesting work in this connection. A teacher, to be alert to what possible interpretations exist in the child's mind, would do well to acquaint himself with some of the work of Piaget. A brief survey of some of his most relevant findings will be included in various sections of this chapter.

One-to-One Correspondence

Among the arithmetic disabilities listed in Johnson and Myklebust are an "inability to establish a one-to-one correspondence between two sets of objects." How is this inability demonstrated?

The skill of establishing a one-to-one correspondence is taught to all children in the development of the concept of the cardinality of number. Piaget has demonstrated that normal and average children prior to about six or seven years of age fail to establish a lasting relationship of

one-to-one correspondence. For example, a child may assess the value of a given set of objects by comparing it with another set of objects of the same kind, without counting, when the objects are placed opposite each other and know they are equivalent sets (have the same number of objects). Or, a child may put an egg in an eggcup, a flower in a vase, or a glass next to a bottle, and understand there are the same number. However, in neither the former case, which Piaget calls "spontaneous correspondence", nor in the latter case called "provoked correspondence", is the concept of one-to-one correspondence lasting for the child under six or seven years of age. If, for example, the row of glasses is closed up to appear shorter than the row of bottles, the child will say ONE ROW has a different number of objects. Even if the child counts six bottles and six glasses he is so misled by his visual perception that he claims there are more in the one row than in the other. Therefore, for one average child who is under the age of six or seven, there has been shown to be no lasting equivalence. The permanence and equivalence of the sets depends, for the child, only upon the distribution of the separate objects. (Piaget, J., 1965)

This same failure to recognize lasting equivalence (conservation of number) occurred also when the children were asked to imitate collections of counters made into a succession of different figures. Children first made rows of the same length without regard to the number of units in the row (density). Children at a later level of development attained a one-to-one correspondence but failed to recognize the continued existence of this correspondence after the figure was distorted. At about six or seven years of age, children accepted the one-to-one correspondence

to be permanent despite the arrangement of the objects. Thus, in working with the concept of one-to-one correspondence, it is wise to bear in mind that children with learning disabilities should not be expected to perform better than the average child is shown to perform. This is not to state that practice and experience are ineffectual; on the contrary, materials and practices should be extensive in order to help the child attain the concept.

Suggested Materials

Arithmetic Board	NEMIC NO: 20-8-1-(2,4,6,8)-½-35
Arithmetic Reading Cards	20-8-1-12-1-26
Mathematics Test Set	20-8-1-2-12-36
Montessori Counting Box	20-8-1-12-1-16
Numberite	20-8-1-12-2-54

Additional Materials:

NUMBER

Concept of Number

The first abstraction which the child encounters is the concept of NUMBER. He is provided with collections or sets of objects which he puts into categories according to relationship. This involves the recognition of similarities and differences until finally he can recognize the significance of the TWONESS or THREENESS of a set of objects. This recognition is an abstraction of the concept of number without which no further progress can be made.

Relationship of Numbers to Each Other

The idea that one number is greater than another, also, can be abstracted from various practical experiences. For example, boxes nested within each other, or buttons, or coins of graduated sizes, can be used as physical models. This leads to the understanding that sets of objects can be ordered according to size. At the same time, different sets of objects can be matched in one-to-one correspondence. If one set is used up and there are objects remaining in a second set, the number of objects in the second set is greater than that in the first. This gives rise to an understanding of the fact that one number may be greater than the other. If the difference between the number of objects is one, the child learns that numbers succeed each other. This can be further demonstrated by the device of a number-line, or of materials employing similar techniques. The child can thus determine the pattern of ADD ONE for himself.

Counting

Counting can be done by rote or with understanding. Concrete objects which can be counted should be used or reference should be made to classroom situations involving numbers, the calendar, toys, time in minutes, games or stories to provide experiences with number names up to ten.

Because of the inconsistency in naming the numbers between ten and twenty, suggestion is made that pupils first learn to count by tens to one hundred. This emphasizes, at the same time, the base ten and the grouping of tens. The child who can count has been found to experience less difficulty in later number work.

Practice in counting can be provided by exercises starting at a number, counting forward by two's, three's, four's, five's, etc. or counting backwards by two's.

Suggested Materials

Arithmetic Board	NEMIC NO: 20-8-1-(2,4,6,8)-½-35
Arithmetic Reading Cards	20-8-1-12-1-26
Count-a-Ladder	20-8-38
DLM Abacus	20-8-2-12-½-29
Flip and Build	20-3-3-5-2-10

Additional Materials:

READING AND WRITING NUMERALS

An arithmetic disturbance claimed by Johnson and Myklebust to be shown by children with learning disabilities is an inability to associate the auditory and visual symbols. Perhaps this association should be mediated by a combination of tactual-kinesthetic stimulations. Unmounted numerals, raised figures or numerals made of sandpaper can be used for the child to trace the numeral and state the name of the number represented by the numeral at the same time. Thus, he is preparing for the future writing of the numeral as he learns to recognize its contours. In kindergarten, do not stress the writing of the numerals.

Suggested Materials

Numberite	NEMIC NO: 20-8-1-12-2-54
Peg Numbers	20-8-1-12-½-51N

Additional Materials:

Table I

READING AND WRITING NUMERALS

Topic	Material	Concepts	Ulti[illegible]e Goal
Reading of numeral	Plastic or paper; sandpaper	Numerals are the names for the numbers associated with the number of elements in a set.	Read, place paper, wood or plastic numerals with proper number of objects
Writing numerals	Chart with numerals and arrows to indicate direction of writing them	Let child write or, if necessary, provide child with tactual numeral activity.	Legible writing
Pre-addition experience	Flannelboard	Set of oranges (n = 3) Set of apples (n = 4) Join the two sets and count the number of elements in the union. Number of elements in the union of two sets is the SUM of the number of elements in the two sets. Pieces of fruit = 3 + 4 = 7	Addition is an operation performed on two numbers (binary). The numbers are called ADDENDS and the result is called the SUM.

Table II

PRECOUNTING ACTIVITIES

Related Concepts	Concept Desired
Groups of dishes, sets or groups of blocks, sets of crayons, sets of furniture	Any collection of things can be called a set
Member of a class, member of a team	One of the things in a set is a member of the set
Match members of two sets in one-to-one correspondence; see if any members are left in one set	If members are left over, one set has more members than the other; the other has fewer than the first
Baby dolls and rag dolls are both members of the set of dolls; blocks are not members of sets of toys with wheels	The rag dolls are a subset of the set of dolls; the blocks are a subset of the set of toys
No elements of the kind specified in the set; e.g., no elephants in the classroom means the elephants in the classroom form an empty set	Empty set means no members in it
Introduction of symbols: =,>,< (equal, greater than, less than) (arrow points to smaller number) Number can be equal (=), one number greater than, or number less than another number	Number of objects in a Set of OBJECTS can be recognized at sight without counting DO NOT EXPECT more than 4 or 5 at sight
If two sets have the SAME elements they are equal; if they can be MATCHED in one-to-one correspondence they are EQUIVALENT (This prevents learning the wrong definition of EQUAL)	

Related Concepts	Concept Desired
Numbers can have many names: 6 3+3 4+2 8-2 are ALL DIFFERENT names for the same number Therefore 6 = 8-2, etc.	This eliminates confusion regarding the equal (=) sign EQUAL (=) MEANS it is another name for the same number

Table B

PRECOUNTING ACTIVITIES

Vocabulary	Materials
Set	Sets of objects: dishes, books, etc.
Member of a Set	Objects in a group of objects
More or fewer objects in a Set	Like objects of two colors on a flannel-board: pennies, soda straws, milk cartons, postcards, etc.

(NOTE: If the two sets match so that there are none left over, the sets are EQUIVALENT, not EQUAL. Equal implies that the members are the same identical objects.)

Subset	Dolls (baby dolls, rag dolls), boys/ girls in class, blocks, any group of materials which can be subdivided into categories
Empty Set	Squares in a set of circles
Number	Any objects which are countable
Number greater than or less than	Objects or cards with geometric patterns
Equal vs. Equivalent	Objects

Ordinal Numbers

The ordinal system of counting implies seriation. Piaget, here, too, has made some important discoveries as to how a normal child seriates. He provided ten dolls of different lengths, ten sticks, and ten balls of varying sizes and asked the child to construct a serial correspondence between the dolls and the sticks and the balls, i.e., place the correct stick and ball with each doll. Then the child was asked to determine a serial correspondence when one of the rows was lengthened or shortened and, finally, to reconstruct the serial or ordinal correspondence when the series was destroyed. (Piaget, J., 1965, p. 152)

Piaget found that the youngest child (4-5½) could not find the correspondence between doll and stick at all; that the second stage child (5-6½) tried to count or make one-to-one correspondence, and, that, only by the time the child was about 6 years, 6 months to seven years of age, could he combine ordinal and cardinal numbers to obtain the desired correspondence. This implies the twofold recognition by the child that each stick or doll was a UNIT equivalent to the other in the series, and that, at the same time, each RELATION or ORDER linking two sticks or dolls of different sizes was equivalent to the other.

This same failure to establish seriation might well prevent the child from at first being able to understand the ordinal system, or being able to place a number between two others. Piaget also discovered that it was even harder for a child to insert an object into an already established series than it was to construct a series from the beginning. Piaget recognized, also, that there were many heterogenous factors involved:

the words used in the instructions, the length of the instructions given, the relationship between the instruction and the individual experience of the child, the number of elements used, etc. Thus, in working with children with learning disabilities it is to be expected that, with their known difficulty in performing sequential activity, there would be required much more drill in acquiring the seriation concept. It might better be acquired in the concrete object framework than in the representational framework prior to the introduction of successive sets of symbols which, by themselves, indicate nothing of sequence.

Suggested Materials

SRA NEMIC NO: 20-8-1-12-3-55

Additional Materials:

It is important that the mathematics curriculum permit the child to obtain much practice in counting by one's, two's and ten's, forward and backward. The child with learning disabilities therefore requires more drill in counting, but of exactly the same nature as does the average child.

STRUCTURE OF THE NUMBER SYSTEM

The following development of mathematical ideas provides a strong foundation for a structural approach to the study of mathematics. There are basic PRINCIPLES or PROPERTIES which are common to all mathematical systems, not only to the system of counting numbers. It is also important from the beginning that the child learn to write mathematical sentences and learn to solve them for successful problem solving in the future.

Addition--Union of Sets

Addition can be taught by the joining together of two separate collections of objects (union of disjoint sets), first, concrete objects, then, in a drawing of pictures illustrating the joining action. Addition is a process which should be developed out of concrete operation with collections of objects. Transition is then made through pictorial representation to the use of Cuisenaire rods, or blocks (Stern), of suitably related sizes, colors and lengths. The results can later be recorded with paper and pencil, first, in terms of the colors, then later, in terms of the numbers representing the number of units of each such colored rod.

ADDITION PROPERTIES

Name of Property	Teaching Technique
Commutative (order) property	Use of two groups of objects Use of number line Change order of addends Use of rods, etc.
Associative (grouping)	Use of three sets of objects Use of number line Use of rods This is important in adding as it permits the grouping of two numbers or more to equal ten.
Identity element for addition (zero)	Use of physical world models/problems
Pattern generalization	e.g., adding 1 is the same as counting by 1's e.g., adding 9 is adding 10 and subtracting 1
Addition facts (need only half of them because of the commutative property)	Make chart

Addition Matrix

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

ADDITION PROPERTIES

Math Example	Concept
3+4=4+3 3 and 4 are addends. 7 is the sum. "+", or plus, is the operation sign for addition.	Sum the same regardless of the order of the two addends. a+b=b+a for all numbers.
1) (3+4)+5 = 3+(4+5) 2) Step 1: 8+7 = 8+(5+2) Step 2: 8+(5+2) = 8+(2+5) (commutative property) Step 3: 8+(2+5) =(8+2)+5 (associative property) Step 4: (8+2)+5 = 10+5	If three numbers can be added, two of them can be grouped and the sum added to the third. The grouping changes but not the order (see Step 3). (a+b)+c - a+(b+c) for all numbers.
5+0=5 Zero is a number. Zero is not NOTHING. If zero is a place-holder, so is every other number.	Addition occurs if zero is added to any number. The result is the number started with. For all numbers, n+0=n.
1=0+1, 2=1+1; 3=2+1; 4=3+1. 0, 1, 2, 3, 4 3+9 = 3+(10-1) = 13-1 = 12.	Every arithmetic number has a successor (add 1 to obtain it). Every number but 0 has a predecessor (subtract).

This "matrix" is an addition chart. Each square is called a "cell". Each row (horizontal) and column (vertical) represents a number 0 through 9. The addends are arranged sequentially in rows and columns, starting at the upper left corner of the chart, where the sign of operation is placed. The sums for each pair of addends are placed in the cell to the right of and below the first and second addends respectively.

Subtraction

Subtraction may be introduced at the same time as addition, or subsequently. There are three problem settings for subtraction problems. In the first instance, the TAKE-AWAY subtraction, we start with a set of objects, subtract part of them (a subset), and are left with a subset of them. When asked to find the difference between two sets of different objects, the COMPARISON method is used. For example, if we are asked how many more cups than saucers (given 8 cups and 5 saucers), we cannot subtract saucers from cups. By one-to-one correspondence of cups to saucers, however, we subtract a subset of 5 cups from the set of 8 cups and have 3 cups left: 3 is the difference between the two sets. Although this may seem trivial, no other way of setting up an equation for a similar problem exists in working later with inequalities. To know HOW MANY MORE ARE NEEDED (the third type of subtraction problem), the problem is set up by an arithmetic sentence: "HOW MANY MORE must be added to 5 to obtain 8?" and would be written as an addition problem "5+?=8". The solution, however, would by obtained by subtraction.

It has been found that by making these distinctions in the type of subtraction problems--and from the use of mathematical sentences--children learn to solve problems far more easily than in the past. It is vitally important, therefore, that the same stress on clarity in setting forth word problems and solutions be given to the teaching of children with learning difficulties who are, reputedly, likely to be even more confused.

SUBTRACTION PROPERTIES

Name of Property	Teaching technique
In subtraction, the result is called the "difference".	
Subtraction is the inverse operation of addition.	Any comcrete objects can be used as physical models to teach this.
Subtraction is not commutative.	Test by actual objects.
Subtraction is not associative.	Test by actual objects.
Subtraction undoes what addition does. (INVERSE OPERATION OF ADDITION)	Show by actual joining and separating of groups.
Zero is an identity element.	Show by use of number line--no motion or change in position.
Pattern generalization	Use physical objects and cards.
Subtraction facts derive from addition facts.	Use addition matrix.

SUBTRACTION PROPERTIES

Math Example	Concept
8-5=3 The operation is read "8 minus 5" or "8 take-away 5" or "5 from 8". The sign of operation is "minus".	Subtraction involves <u>separation</u> of subgroups from group--first concretely, then in pictures, then <u>imagined</u>.
If 3+5=8, then 8-5=3 and 8-3=5.	Joining and separating are inverse. One <u>undoes</u> the other. (8+3-3=8)
$4-3 \neq 3-4$	The difference is different if the order is changed.
$5-(4-3) \neq (5-4)-3$	It makes a difference if the parentheses are changed.
8+3-3=8 8-8=0	Adding and then subtracting the same number results in the number you start with. n-n=0
8-0=8	Subtracting zero results in the number you start with. n-0=n
Subtracting 1 is counting backwards. Subtracting 9 is subtracting 10 and adding 1.	
	The addition chart can be used to find differences. For example, if $\begin{array}{c\|c} + & 5 \\ \hline 3 & 8 \end{array}$, 3=5=8, then 8-3=5 or 8-5=3.

Multiplication

The teaching of the multiplication process also has new and modern approaches, although multiplication of whole numbers may still be considered as a special case of adding addends which are equal in number. Instruction in this type of multiplication becomes a simple joining of different sets of the same number of elements and the same materials can be used for the exercises as for the addition activities.

Suggested Materials

Multiplication Board NEMIC NO: 20-8-1-12-2-17

Additional Materials:

A modern approach to multiplication is associated with a rectangular array in which every member of one set is paired with every member of the other set. This CROSS PRODUCT or CARTESIAN SET represents the possible number of ordered pairs thus obtained. For example, Mary has red, white and blue skirts and blouses which are yellow, green and red; the problem requires finding the total number of combinations she can wear. Obviously, she can wear a red skirt with a yellow blouse, green blouse, or red blouse (3), or the white skirt with the yellow, green, or red

blouse (3), or the blue skirt with the yellow, green, or red blouse, making a total of 3 x 3 or 9 combinations. Thus the number of elements (ordered pairs) in the Cartesian product is the product of the number of elements in the two sets.

Multiplication should be introduced within the framework of word problems, not as a separate subject in itself. Children may be provided with actual objects that they can use for counting to find the answer. They should also be encouraged to use blocks, Cuisenaire rods, and the number line for their solutions. If the child is permitted to seek as many possible solutions in as many different ways as he wishes, and is allowed to discover freely solutions to the word problems, it is doubtful that the confusion in operations allegedly distinguishing children with learning disabilities from others will be so great.

MULTIPLICATION PROPERTIES

Name of Property	Teaching Technique
Factors are multiplied together to yield a product. The product is the multiple of the factors.	Cuisenaire rods, Stern blocks, number line.
"3x4" is read: "3 fours" or "4 threes" or "3 times 4" or "2 multiplied by 4" or "the product of 3 and 4". The "x" represents the operation of multiplication.	Groups of concrete objects, number line Use of arrays of objects or squares.
Commutative (order)	rods, blocks, multiplication line, arrays--objects.
Associative	rods, blocks, number line, objects.
Identity element is 1.	Number line, no motion.
Zero property	Addition zero times.
Multiplication facts (need only half of them because multiplication is commutative).	Multiplication matrix line, addition matrix.

MULTIPLICATION PROPERTIES

Math Example	Concept
1x12 = 3x4 = 2x6 = 12 {1,2,3,4,6,12} : the set of all factors of 12. 12 is a multiple of 1, of 2, of 3, etc.	Numbers multiplied together give a product. The terms "multiplier" and "multiplicand" are no longer used; since multiplication is commutative, the order is not important.
a) 3x4 can also be written b) 3·4 c) (3)(4). No sign needed if parentheses are used.	Multiplication is a form of repeated addition when it involves whole numbers. But when letters (variables) are used ab = a·b or (a)(b) or (a)b or a(b) but not axb. (x looks like letter "x")
2x3 = 3x2	Order of factors does not affect product: for all numbers, ab = ba.
(2x3)x4 = 2x(3x4)	Grouping of factors does not affect product: for all numbers, (ab)c = a(bc).
8·1=8	Any number mulitplied by the identity element results in the same number. V_n n·1=n (for all numbers n).
8·0=0	Any number multiplied by zero equals zero.

Division

Division, also, can be viewed in different ways. Just as subtraction is taught as the INVERSE of addition, so, too, division is taught as the INVERSE of multiplication. Thus, if A x B = C, it must follow that C ÷ B = A or if 3 x 4 = 12, then 12 ÷ 4 = 3 or 12 ÷ 3 = 4. In such case, A and B (3, 4) are called factors of the product C (12) and C (12) is a DIVIDEND, B (4) a DIVISOR, and A (3) the QUOTIENT. Similarly, the equation C ÷ A = B (12 ÷ 3 = 4) is also true.

Division may also be regarded as successive subtraction, just as multiplication is regarded as successive addition. Thus, "How many 4's equal 12?" may be solved by successively subtracting 4 until the difference is 0. And, if 4 is subtracted 3 times, the answer is 3. Foundation work in division should begin in Grade 1 with work in multiplication. It should come as a result of problem solving situations and solutions should be arrived at by the use of counting number lines and sets of other objects.

Just as subtraction was categorized into three types of physical world situations, division is categorized into two main types: measurement and partition problems. Measurement problems are of the type "I have 24 cookies and I will give 3 cookies to each child. How many children?" This can be solved by drawing 3 cookies for each child and counting the number of subsets of 3 cookies needed to exhaust the 24 with which you started. The number line can be used to show successive additions of 3 up to 24, and a single division algorithm 24 ÷ 3 = 8 can give the solution.

Unlike the measurement or non-sharing type of problem which requires the number of equal groups to be found is the sharing or distribution type of division or "partition" problem; here, the number of equal groups is known and the number in each group is sought. For example, "if I have 16 cookies to be shared equally by 3 children, how many cookies will each child get?". Unlike the "n = 24-3" above, the unknown member is, in reality, the divisor: 16-n = 3. However, the problem is done as 15-3 = n. The child should be introduced to both kinds of these division problems.

DIVISION PROPERTIES

Name of Property	Teaching Techniques
In division (and this is often <u>not</u> learned by grade 8) the dividend is divided by the <u>divisor</u>. The result is the <u>quotient</u>.	$8 \div 4 = 2$ is read: "8 divided by 4" or "4 into 8" or "the number of 4's (groups of 4) in 8" is 2". 8 is the <u>dividend</u>; 4 is the <u>divisor</u>; 2 is the <u>quotient</u>.
Division is successive subtraction.	$8 \div 4 = (8-4)(-4) = 0$ Four is subtracted <u>twice</u>, or "8 is <u>2</u> groups of 4".
Division is <u>not</u> commutative.	Can show with objects.
Division is <u>not</u> associative.	Can show with objects.
Division has an identity element.	Can show using successive subtraction.
Division is the <u>inverse</u> of multiplication.	Use multiplication matrix.
Division is indicated by several symbols.	$8 \div 4$ is also written $4\overline{)8}$, and $\frac{8}{4}$. (Fraction bar is read "divided by".)
Division by <u>zero</u> is always impossible.	$n \div 0$ or $0 \div 0$ <u>cannot</u> be divided. Teach by inverse.
Zero <u>can</u> be divided by any number.	Teach by inverse.

DIVISION PROPERTIES

Math Example	Concept
	Division involves separating a number of groups from a larger group until the larger group is exhausted. (The use of remainders appears in the section on fractions).
$\begin{array}{r} 24 \\ -8 \\ \hline 16 \end{array}\ \begin{array}{r} 16 \\ -8 \\ \hline 8 \end{array}\ \begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$ $24\div8=3$	
$8\div4 \neq 4\div8$	The order changes the result.
$(8\div4)\div2 \neq 8\div(4\div2)$	The grouping changes the result.
$8\div1=8$; $8\div8=1$	The quotient of any number and 1 is the original number; any number divided by itself is 1. $n\div1=n$; $n\div n=1$ if $n \neq 0$.
If $2\times4=8$ then $8\div4(\frac{8}{4})=2$ or $8\div2(\frac{8}{2})=4$. Note: $3\times5\div5=3$.	Division and multiplication undo each other. e.g. $(a)(n)\div n=a$
a) If $8\div0=\square$, then $\square \times 0=8$ (inverse) but	There is no number "times" zero to equal 8.
b) If $0\div0=\square$, then $\square \times 0=0$. but	This is true if $\square$ =1,2,3....for any number. Therefore, quotient cannot be determined.
$0\div8=\square$ since $0\div5=\square$	$\square \cdot 8=0$; $\square \cdot 5=0$, $\square$ must equal zero.

MATHEMATICAL SENTENCES AND SYMBOLS

A symbol in a mathematical sentence that holds a place for the name of a number is considered a place holder. A □ or ○ can be read "what number?". There can be placeholders for a word, a group of words, or a symbol. Thus: □ + 3 = 5 is read "square screen + 3 = 5" and means "3 is added to what number to give a sum of 5?".

The child, once familiar with this use of a placeholder, will have no difficulty when the problem is written "n + 3 = 5" or later, "x + 3 = 5" or "p + 3 = 5".

The significance of the equality sign should be stressed. It means that the quantities on either side of the sign are the same or that both sides are different names for the same number. Thus 3 = 2 + 1 means that "2 + 1" is another name for "3". It also indicates that the sum obtained by adding 1 to 2 is 3.

The child is introduced early in school to the concept of "greater than" and "less than". Here symbols are used which may tend to confuse the child with disabilities, particularly if he has problems reading left to right. In this case, instead of ">" or "<" respectively, the teacher may use the words, or ask the child to circle the larger of the two numbers. In this way, there will be no confusion between the child's ability to employ a symbol and the child's understanding of the concept of "greater than".

Following the introduction of the symbols, the child learns that 4 + 2 > 5

and can name numbers to replace the placeholders in inequalities such as: $x + 3 > 6$ or $x - 2 < 3$. In dealing with children in grade one, where a mathematical sentence is used to express a basic fact, two of the three numerals should be one-digit numerals.

Suggested Materials

Arithmetic Enrichment Ideas	NEMIC NO: 20-8-12-2-(27thru 28)
Cross Number Puzzles	20-8-2-12-4-41
SRA	20-8-1-12-3-55

Additional Materials:

SPACE AND GEOMETRY

The kindergarten and primary grades provide the opportunities for informal and intuitive introduction cf geometric concepts. Children can, at this time, learn to distinguish geometrically-shaped objects and identify and name geometric figures. A prerequisite to such accomplishment, however, is the ability to orient themselves in space. Some children with learning disabilities tend to have disturbances in spatial orientation. They lack left-right orientation and have difficulties with concepts of time (e.g., time of day or season of the year), size (large or small), positional relation (front, back, top, bottom), distance (far or near), and with concepts of measurement such as length, height, area and the shape of geometric figures. They need additional cues to interpret visual experiences for self-orientation. The teacher of children with learning disabilities should be aware of the particular child's problems, but, as was true with the development of the number concept, he should also be able to discriminate between specific problems and the type of difficulty which is determined by the stage of developmental growth.

PIAGET'S WORK DEALING WITH SPACE CONCEPTS

Piaget has done considerable work from which conclusions can be drawn as to the expectations for a normal child in this respect. According to Piaget, the evolution of spatial relations in a child proceeds both at the perceptual level and at the level of thought or imagination.

The child perceives, imagines, and remembers what he has perceived; he then represents it through imitation. This imitation becomes a part of him or, as Piaget would say, the image is "internalized". This, in turn, develops out of motor activity as well as perception. The intellectual relationships which constitute the beginnings of representational space are at first linked with the image; later, the child separates the figural from the motor elements of the image.

Reproduction of Figures by Tactile Activity

It is interesting to note that Piaget tested children in two different ways: he tested them for what he called "haptic perception", having them feel solid objects or flat geometric figures which were placed behind a screen, then asking them to draw a picture or select from a series of objects an object of the same shape as that which they were feeling. Meanwhile, Piaget was able to observe not only the drawing but the tactile activities performed behind the screen. The children thus had two problems set before them simultaneously: to translate tactile kinesthetic perceptions into visual ones and, in the drawing, to incorporate the tactile data and the results of the exploratory movements into the construction of a visual image.

Abstract Figures Versus Geometric Figures

Children from three years, six months to four years of age could recognize familiar objects such as a key in this way. The child would explore tactilely in a passive manner; there was no direction to the

exploration. If the child felt a curve or straight side or point, he would liken the whole shape to a visual shape possessing the same characteristics and not bother about the rest of the object or attempt to put together the whole structure. The child might, by chance, discover a whole and recognize a familiar object but not a geometric figure.

The child in the next developmental stage could recognize familiar objects but not abstract shapes. Curiously enough, the shapes first recognized were not Euclidean but topological. (Euclidean: plane, geometric figures involving straight lines, angles, curves and distances, e.g., distinction between circles and squares; Topological: dealing only with surfaces and wholes, e.g., distinction between closed and open figures but not between a square and a circle.) (Piaget, J., & Inhelder, B., 1967, pp. 48-52)

From four years, four months to six years, the child begins to differentiate, crudely, rectilinear from curvilinear shapes, but the child cannot distinguish between the different rectilinear shapes (square vs. rectangle) or between the different curvilinear shapes (circle vs. ellipse). A progressive discrimination between shapes follows according to the angles of the figures;later, a successful search for significant clues results in the recognition of the rhombus- and trapezoid-shaped figures. At ages six to seven, children begin to explore methodically and can identify complex forms such as the swastika.

Reproduction of Figures by Copying and Visual Perception

Piaget found that drawing lagged somewhat behind this identification by choice. By the age of seven, however, there was an exact correlation between the child's recognition of an object and his drawing of it. The results were remarkably similar even when the child was no longer asked to draw by feeling or from memory but was asked to copy a figure. Up to about two years, eleven months the child only scribbled; later-made scribbles appeared to vary according to the model being copied: open shapes were distinguished from closed ones, but the child could not copy a cross or a circle other than as open or closed scribbles. Up to the age of four, he ignored Euclidean relationships and drew only topological ones (circles were drawn as irregular closed curves but squares and triangles were not distinguishable from circles). Differentiation of Euclidean shapes was made at a later stage--curved from straight sides but not a square from a triangle. The number of sides of the figure was ignored; the rectangle was usually the most correctly represented or reproduced figure.

At a still later developmental stage the child began gradually to distinguish shapes according to their angles and even their dimensions: the square from the triangle or the circle from the ellipse. Oblique lines are discovered. Circumscribed figures are drawn correctly but points of contact are not properly represented, whereas contiguous circles are. At about six years, six months to seven years the child can draw all figures, including a circle intersecting a triangle at three places. Piaget concluded that from the age of seven on, many children can draw

correctly because the construction of the figure is now anticipated by a mental image drawn up in advance. The reconstruction of shapes requires the child to actively put parts of figures into relationship with each other. This abstraction Piaget sees as based on the child's own actions and coming about through the gradual coordination of the child's actions. (Piaget, J., & Inhelder, B., 1967, pp. 52-58)

Conclusions

This stress on the importance of coordination (eye and hand) is most important in considering children with learning difficulties. The child with lack of coordination in sensori-motor activities might not be able to draw figures such as those used in tests. It may be that from about six to eight years of age the children have not yet reached the developmental stage which permits them to perform the drawing coordinations and may not be afflicted with learning difficulties. Thus, knowledge of how normal children perform may assist the observation and diagnosis of such disabilities. (cf. Peel, 1959)

Several mathematics textbooks for elementary teachers provide many suggestions as to how to work with all children in assisting them to orient themselves. It may be that a longer period of time is required for children with learning disabilities. (Grossnickle et al., pp. 110-111, e.g.)

GEOMETRICAL CONCEPTS

Introduction of Geometric Shapes

The introduction of geometric shapes can be done in many different forms. Games can be played within and outside of all types of geometric figures drawn or taped onto the floor. Models can be made or cut out of a variety of materials. Examination of the figures can be made tactilely and visually, or activities involving gross motor activity, depending upon the need of the particular child, can assist the establishment of the outlines of the figure. It is important that during these exercises the main characteristics of the figures be pointed out to the child by the teacher: the straight or curved sides, the sharp corner, the number of such sharp corners or angles, the square corners or right angles, and the number and straightness of the sides of the figures. This information should be conveyed to the child by presenting visual and auditory clues at the same time the child draws from tactile experiences with the objects.

The attention of the child should be focused on the important clues he has missed. He should be assisted in distinguishing between the three-sided, three-angled triangle and the four-sided, four-cornered square. Distinction should be made between the four-sided rectangle and the special rectangle with four congruent sides called a square. He should be allowed to feel and understand the difference between a parallelogram and the special kind of parallelogram with right angles, called a rectangle. Figures which are of the same size and shape should be shown to be congruent by superposition. The same kind of activities to which reference has been made in assisting in the recognition and writing of numerals

should be applied to the recognition and reproduction of figures.

Suggested Materials

Flip and Build (Geometric Shapes)	NEMIC NO: 20-3-3-5-2-10
Fraction Inlay Board, Squares	20-8-1-12-½-43
Geometric Forms	20-3-4-12-2-20
Geometric models construction kit (grades 5-9)	20-8-2-12-2-36
Nuffield materials	

Additional Materials:

MEASUREMENT

The topic of measurement is also introduced into the modern elementary mathematics program. Because of the importance of measurement and measuring instruments in the modern world, the child should begin to acquire practical experiences in measurement at the beginning of his school career. The inability to understand measurement concepts is listed as an "arithmetic disturbance" for children with learning disabilities. However, it is because there was a similar inability on the part of many average students that the entire approach to the testing of measurement and concepts has been changed. Some of these suggested techniques are to be found in the Nuffield Mathematics Series as well as in any modern elementary mathematics education texts. Many of the suggestions incorporated into these new programs derive from the experimental findings of Piaget with regard to length, area, volume, transitivity, comparison, conservation, unit iteration and computation.

Supervised Experiences

In connection with measurement--whether it be length, area or volume--certain of the above-named specific concepts must be developed; as many opportunities as possible for the child to discover these for himself must be offered. The child with learning difficulties may, perhaps, need a greater coordination of visual, auditory and tactile kinesthetic activity than does the normal child. He may need more experiences of different types and in connection with figures constructed of a variety of materials. He may need more supervised practice.

Vocabulary Relating to Physical Attributes

Prior to experiences with number, many words were introduced to the child representing both absolute and relative terms relating to size, shape and measure. In connection with work on measurement, a great many additional terms must be used, introduced and explained in conjunction with physical objects which possess the properties (e.g., such terms include words similar to: long, longer, longest; tall, taller, tallest; short, wide, narrow; thin, thick; flat, broad, round; straight, curved). Prior to discussing measurement, the child must understand the terms connected with measurement.

Distance Versus Length

In seeking to discover how children reach an understanding of length and measurement, Piaget studied how they began to develop measurement spontaneously. In analyzing how the child differentiated between distance and length, Piaget found that when asked if Figure A was as far from Figure B as Figure B was from Figure A, children up to the age of 7 answered according to the distances of the figures A and B from where they were sitting, or their answers depended upon the relative heights of the two objects. When a long, straight measuring stick and a curved object were placed between the two same points the child was unable to distinguish between what was meant by the distance between the two points and the length of the object whose end points were placed at the two points. Only an older child considered the distance between the two points and the length of the object as being the same.

PIAGET'S TESTS

Piaget also examined stages in the child's acquisition of the concepts of transitivity, conservation of length and the repeated use of a unit for measuring length.

Conservation of Length (Piaget, J., Inhelder, B., & Szeminska, A., pp. 95,ff)

TEST 1: Place two objects of the same length side by side, parallel to each other so that their ends are aligned. Ask the child if they are of the same length.

TEST 2: Place two objects of different lengths, starting at the same starting point and running parallel to each other. Ask the child if they are of the same or different length. (This makes sure the child understands the difference between equality and inequality.)

TEST 3: Move one of the objects in TEST 1 forward of the other object in front of the child, then ask the child if the two objects are of the same or different length.

CONCLUSION: If the child says that the sticks are of different lengths, he has not yet acquired the concept of conservation of length and is not yet ready (without assistance) to study further concepts of measurement.

(Suggestions for further tests: Biggs, 1969, p. 122)

Tests for Transitivity of Length (Piaget, et al. (1964), pp. 26-67)

TEST 1: Label three objects of equal length A, B, and C. Ask the child if A is the same length as B. Remove A out of sight. Ask the child if B is the same length as C, B and C being in front of the child. Then ask is A the same length as C.

CONCLUSION: If child asks to see or measure A against C it can be concluded that the child has failed to acquire logical transitivity of length for equality.

TEST 2: Label three objects A, B, and C. A is longer than B, and B is longer than C. Ask the child if A is the same length, shorter than, or longer than B. Once the child has answered correctly place A out of sight. Then ask the child to compare B and C in the same words as used above. If he says that C is longer than B, ask if A and C are the same length and if A is shorter or longer than C.

CONCLUSION: If the child asks to see or measure A against C he has not acquired logical transitivity of length for inequality.

Results Found by Piaget

As a result of his research, Piaget found that the child up to four years of age describes all his actions subjectively. He can establish distance between two objects only in respect to his own position relative to the two objects. He compares objects perceptually at this stage, regards length and distance only in terms of a final end point regardless of the starting point, and fails to acquire conservation. At about seven years of age the child begins to see objects within a different frame of reference, sees change of direction as represented by movement in the direction of the end point, sees the whole as a series of short links in which end points connect with starting points, copies models by what Piaget calls "visual transfer", and then "manual transfer". HE STILL LACKS CONSERVATION AND TRANSITIVITY! Children aged eight to nine were found able to measure length when copying models if the measuring

rod was equal to or greater than the length to be measured. If it was shorter, however, they would use a supplementary length rather than repeatedly apply the same unit.

Other Research

Lovell, Healey and Rowland (1962) have provided tables of stages involving the measurement of length by the unit iteration technique:

> "...The initial demonstration by the E seems to help the S to achieve a measure of coordination and to understand how to use the common measure. But this 'learned' understanding does not immediately lead to subdivision on terms of homogeneous units. Ss count the segments without caring if they are all of the same size...." (p.766)

They concluded from the results obtained that one-third of the seven-year-olds, one-half of the eight-year-olds, and about three-quarters of the nine-year-olds who compared unit lengths recognized that one unit was one-half the length of the other. Yet, of the same children, only about one-eighth of the seven-year-olds, one-half of the eight-year-olds, and two-thirds of the nine-year-olds conserved length, using the supposedly less difficult standard Piaget task for conservation of length already described.

A third-grade "superior" class of pupils and a "low-ability" fourth-grade class were provided by the writer with a series of sequential teaching and evaluating experiences, there being "feedback" to the pupils as each new concept was introduced and then tested. The study included tests for

conservation of length, doubling a line segment, measuring a line segment, and measuring a line segment by unit iteration. Practically all the third graders (despite their superior intelligence) lacked the concept of conservation of length, while fourth graders of lesser ability were found to have acquired it.

Unit Iteration

Children thus measure by employing the logical operation of transitivity (if A=B and B=C, then A must be equal to C, or if A > B and B > C, then A > C.) But real measurement begins when one part A, belonging to a whole C, is compared with the remaining parts of the same whole by moving it along stepwise, changing its position (or the position of a common measure) so that A or its equivalent is superimposed on the remainder. This concept, unit iteration, requires therefore the prior acquisition of the concepts of change of position, transitivity and conservation, and involves the recognition of the concept of the subdivision of a whole into its parts.

Area Concepts (Piaget, J., et al. (1964), pp. 273-286)

TEST 1: Present two cardboard rectangles, two squares wide and three squares high. Transfer the top right-hand square of one of them to the bottom right-hand corner, then ask the child whether the new figure "has the same amount of room".

TEST 2: Cut a rectangle in half along its diagonal. Put the two sections together in the shape of a large triangle and, comparing with another rectangle identical to the one cut, ask the child, "are these the same size?"

CONCLUSIONS: The child who is not misled by the difference in shape of the new figures and understands that nothing has been added or subtracted, therefore there is the same amount of "room", has apparently acquired the concept of conservation of area.

(For other activities dealing with different kinds of measurement, see

Biggs (1969), pp. 109-140; Sharpe, 1969)

Conservation of Area

In connection with these attempts to determine whether children think of area as a stable attribute which must be conserved even while the shape of an object is being altered, Piaget found that children of seven or eight years began to view two areas as equal if they could be made congruent by rearrangement of their parts. This occurred at about the same age that the child could group and subtract parts of a line, conserve length, group partial areas and subtract them from equal larger areas, obtaining equal partial areas as a result. At about the age of nine the child finally ignores any alteration in the shape of the area and recognizes the area has not changed.

Counting Units of Area and Unit Area Iteration

The teaching of area has traditionally been poor because of the stress on manipulation of numerals in a formula learned by rote. Before the concept can be understood, the child must appreciate the importance of a unit of measurement.

This concept should be developed in several stages, particularly for children with learning disabilities, leading from the concrete, through the representational stage, to the symbolic stage where formulas are introduced.

Large tiles for floor or paper squares can be placed on the floor and physically used to count a given area. When the child learns to count square units adjacent to each other, then the next step is the counting of the number of unit squares in a row (the measure of length) and the number of rows (the measure of width) and obtaining the product of the two numerical values will give the area.

The child can then transfer the calculations following this motor activity, to counting the number of 1" squares needed to cover the closed region of a rectangle, divided into squares.

The teacher must here be alert to the child's interpretation of the meaning of a "unit square." Piaget found that children of 5 and 6 years who were directed in the process of comparing figures using half squares and unit squares, follow the lead of the experimenter with no understanding. Even older subjects persisted in counting whole and half squares as the same unit.

Needleman (1970) found in her research that 71% of subjects under 12 could count units correctly, but that only 37% of them could perform unit iteration correctly. The teacher of the child with learning disabilities, therefore, should not be discouraged if her pupils have difficulty with these concepts. Extended use of units of various materials and textures is recommended prior to any introduction to shortcuts or formulas.

Measurement of Time

Suggested Materials

Mathematics Learning Laboratory 107: time learning NEMIC NO: 20-8-2-12-2-18
Time-telling--programmed textbook 20-8-1-12-3-65

Additional Materials:

FRACTIONS (SUBDIVISION)

The introduction of measurement topics gives rise to the practical importance of fractions. Difficulty is experienced in this topic by almost all children. Here, too, new directions have been taken in instruction. Slow learners are instructed in fractional concepts and operations of a practical nature. But extensive work with concrete objects and models precedes symbolic relation to fractional numbers.

Research has shown that teachers have considered the concepts of subdivision to be understood in too many instances where they have been learned by rote. Piaget has demonstrated this by his work relative to subdivision and the writer has confirmed much of what Piaget has found in her own research. Since measurement and the construction of a unit for measuring depends on subdivision, it is desirable to understand how the child's concept of subdivision grows, i.e., his ability to anticipate the division of an object into two or more equal parts.

Tests Used by Piaget (Piaget, J. et al., 1964, pp. 302-305)

To learn how children subdivide and recompose areas, Piaget asked children to cut a "cake" by dividing it into halves, thirds, fifths and sixths. The "cake", in turn, was either circular or rectangular in shape. It was cut by the child first marking lines with a pencil and then using a scissors. The child's ability to conserve the whole (part-whole conservation) was tested by his responses to the question following each subdivision as to whether all the pieces of cake taken together provided "the same amount to eat" as the original cake.

Results

Piaget found that children six to seven years of age can divide the cake into two equal parts successfully. Younger children first bisected the circle and then tried to create three parts (trichotomy) by halving the remainder or quartering the cake, ignoring the fourth quarter. Some children he found attempted to trisect a rectangle by successive fragmentation, or quartered the rectangle and ignored one quarter. Others halved the rectangle and bisected one of the halves. The child of about seven becomes successful at trisection. Although the constructions they made were not of perfect thirds, the children tested evidenced awareness of the fact that the partitions should be equal and the division should be exhaustive (no remainder). Two of Piaget's three youngest subjects performed the trisection of a circle by successfully drawing parallel lines; the third used radial cuts which yielded three equal triangular portions. These children ranged in age from 7:6 to 8:8 years.

Children who trisected without trial and error, given a circle, however, were still generally unable to subdivide into five or six parts. The earliest success which Piaget related in these tasks is by children about nine or ten years of age. Even at 9:2, a subject made unequal portions before discovering the technique of drawing three diameters to create sixths. There were, instead, different varieties of performance at these tasks: fragmentation with bits cut out at random around the circumference of the circle leaving the center unused, or two successive bisections intended to result in five parts, or two quarters and four

eighths as six equal parts. Piaget appears to claim that all of his subjects were eventually successful in dividing into fifths or sixths although many succeeded by trial and error.

Other Research

Lovell et al., (1962), replicating Piaget, found that the number of subjects who were able at least to trisect the square and rectangle and, by trial and error, arrive at the trisection of the circle, at the same time conserving,(at least intuitively), approximated 60% of the seven-year-olds, and approximately 85% of eight- and nine-year-olds.

Needleman tested the acquisition of these concepts for 69 boys, all within an I. Q. score range of 100 through 120, selected from grades 3 through 8 of an upper middle class suburban school system. They ranged in age from 8:7 to 14:4.

She found that all students acquired the concept of conservation of area but that less than 56% below the age of 10 could subdivide, less than 67% under 11, and less than 80% under 14. The tests used were those referred to above. She also found that 77% could trisect a rectangle, but only 39% could trisect a circle.

In tasks involving counting units and half units, 71% under the age of 12 performed successfully, whereas only 37% were able to move a unit correctly to measure the area of a figure.

If conservation is a logical prerequisite of these tasks of unit iteration and measurement, then Lovell's stress on the importance of this work is justified. "Children may acquire a certain verbal facade, or they may perform some action by rote since they have been 'taught', without having the operational mobility to understand what they are doing." (p. 766) Thus, the data suggests:

> ...that many children in primary schools are successfully measuring length without fully understanding the nature of the actions they are engaging in....The important thing for the teacher is to know to what extent a child is performing a given operation with understanding and to what extent he is performing in rote fashion....

It can be seen, therefore, that the trouble children with learning difficulties may display in work dealing with factual concepts should not be exaggerated. It is recognized as common to a large number of students.

Suggested Materials

Equivalent Fractions Matching Cards	NEMIC NO: 20-8-2-12-3-30
Fraction Inlay Board Squares	20-8-1-12-½-43
Nifty Circle Meter	20-8-2-12-3-33
Vistrum Fractions (925-9)	20-8-1-12-2-58

Additional Materials:

THE ROLE OF LANGUAGE AND TERMINOLOGY

The teacher of children with learning disabilities must be sensitive to the matching of the child's language and his experiences. "A piece of chocolate" was an entirely different thing to different subjects as was evidenced by both the questions and comments of the subjects in the Needleman research. How, then, can the ability to count units be evaluated if the results obtained were based upon different definitions and understandings? In comparing the two areas by a question about "the same amount to eat: Are any two of them the same size?", when subjects looked for congruence as "the same size", could their failure at the task be due to developmental immaturity, to inexperience, or to a failure to understand what was asked of them?

This is, of course, not the first occasion for questioning the language of Piagetian tasks or the results of children's performances in them. Rosenbloom raises the question "...one wonders whether the child's trouble is with the concept or the words. Would a child respond differently if the question were put in a more concrete form?" Bruner (1967, p. 204) suggests that there is a problem of match between the child's language and his way of organizing the experience to which the language must be applied, and cites as examples that "same" and "more" cannot have the same meaning to a child as they do in adult speech. Piaget himself has questioned and provided his own answers to possible language difficulty by employing alternative methods of testing to rule out possible failures because of misunderstanding of instructions. Also,

Sigel (1969) gives several instances where language and thought of a child were not "isomorphic", and warns "that the teacher must be sensitive to the child's capacity for assimilating verbal languages."

SUMMARY

Throughout this chapter there has been stress laid upon the fact that the teacher should be sensitive to the fact that the child may not have attained a normal state of readiness for the acquisition of certain concepts. However, one must not necessarily wait for that time to arrive. The remedy lies in providing opportunities for growth, by ascertaining from appropriate diagnostic tests, such as Piaget readiness tests and others, the readiness level the child has appeared to reach. The proper stimuli must then be offered the child to advance his conceptual development. This may differ for the several concepts involved and from the several media within which certain concepts are being taught. As Johnson and Myklebust recommend..."If the child is understimulated, he fails to learn and if the demands are above his level, he becomes frustrated and discouraged." (p. 53)

Some General Rules to be Observed

1. A minimum of rote drills and meaningless materials should be employed. Emphasis in teaching should be stressed on meaningful association, organization and memory activities based upon understanding.

2. In teaching addition facts, it is important that how the facts come into existence is more beneficial to children with disorders of auditory language than rote facts. The same is true as to early memorization of the multiplication tables since these can be developed from successive additions when the need arises because the additions are too many. When the child understands this and

seeks for a shortcut, the importance and significance of the multiplication table arises.

3. Mathematics concepts should be organized as ideas which fit together. Thus, addition and subtraction should be shown to undo each other; multiplication and division should be shown to undo each other.

4. One of the difficulties ascribed to children with learning difficulties is the inability to understand the meaning of the process signs. If such a perceptual disturbance exists which creates the inability to discriminate between multiplication and addition signs, there is no reason that the verbal words ADD and MULTIPLY cannot be used instead. The same thing applies to the symbols for equality and inequality. If the direction for the "greater than" or "less than" signs is confusing, as it is to many children of normal ability, there is no reason that multiple choice expressions should not be used in presenting the concept. The child might also be asked to draw a circle around the larger or the smaller, etc. of the two numbers. In this way, the concept is the issue and not the reading of the symbol.

5. Difficulty in understanding the arrangement of numbers on a page can certainly interfere with computation abilities. Solutions which have been found to assist children who are slow learners and who may also have trouble aligning numerals vertically and horizontally is the use of graph paper, preferably 1" squares, in each of which a separate numeral is printed. If the teacher will prepare such sheets on a duplicating machine and write in the numerals for the problem to start with, the child may be able to work the problem with less difficulty.

6. If a child has excessive difficulty, even using graph paper, perhaps the employment of raised figures for all operations in arithmetic might eliminate some of the trouble. In this way the individual numerals can be placed far enough apart to be recognizable in their individual place value positions and close enough so that the whole can also be recognized. The teacher would then have the responsibility of focusing the child's attention on the order of the individual numerals, and then on the entire value of the number represented. This systematic scrutiny must be indicated by the teacher, and the child, depending on his difficulty, can follow the details with his fingers, listen to the words, and state the numbers at the same time. This technique is nothing more nor less than the application to numerals of techniques used in word scrutiny.

There have been of late put on the market large numbers of tapes which can be used in simple cassette recorders by the individual child to listen to numbers by himself. The use of such an auditory projection of the numbers might be of assistance, particularly where accompanied by sheets prepared by the manufacturers to accompany the tapes. At the same time the child can write results and check them by himself.

It has been found that some children are unaware that several letters make up a word and think a series of letters are a series of words. If children have such a problem it would not be unusual if they think each numeral is a separate number. Here, again, the teacher must indicate the parts and the whole of the whole numeral.

Children who have auditory and visual disability can be taught the numerals and letters by tactual modality. Sandpaper letters were suggested for all children by Maria Montessori and they are even more indicated for such children as are herein described. However, it must be borne in mind that if the child cannot feel differences through touch, then the actual task of tracing the letters or numerals will be ineffectual. Reference to the Piaget drawing tasks already described can serve as a clue to normal expectations for the child.

7. Difficulty in following and remembering sequences of steps to be used in various mathematical operations is not that uniquely of children with learning difficulties. Again, the elimination of rote activities and the breaking down of every operation into meaningful steps, using as many concrete demonstrations as necessary, can assist the procedures.

8. Problem solving is difficult for all children. Again, if the problem is broken down into clearly defined steps, if it is ascertained that the terminology used in the problem is meaningful and related to a child's practical experience, results will be better. If the problem deals with matter foreign to the child's experience, juggling figures and process signs will fail to lead to any understanding. If concrete illustrations can be shown, or if the child can actually fill a vessel with liquid or cut squares and count them, then the problem will take on meaning.

TEACHER PREPARATION

Implicit in all that has been stated in this chapter is the expectation that the teacher is knowledgeable with respect to mathematics concepts, the number system, the properties of the number system and the operations involved in computations. This presupposes a recent course in modern mathematics which encompasses in detail some of the concepts here discussed. A teacher who has always feared mathematics and is now forced to teach it to the child with learning difficulties can only resort to the rote and traditional techniques by which she herself was unsuccessful. She

can only communicate the fear and confusion and frustration she herself feels. To be successful with the children who need even more understanding and discovery techniques the teacher must herself be well trained. Otherwise, it is suggested that a teacher who has an understanding of mathematics be used as a resource person.

Many of the materials recommended to be found for assisting in the mathematics instruction are based upon sound mathematical concepts. If the teacher using them does not understand the concepts she is teaching, or if the teacher uses them without relating them to the practical experience of the child, they may be no more effective than the days of rote and drill. Where mathematics is so important in the world of today, the teacher of arithmetic for children with learning difficulties should be as well trained in elementary modern mathematics as are elementary teachers in general.

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ALPHABETIC LIST OF NEMIC OWNED MATERIALS

TITLE: Arithmetic and mathematics NEMIC NO: 20-8

AUTHOR: Bereiter, C.

VENDOR: Dimensions Publishing Company, 1968

DESCRIPTION: A concise paperback on theory and methods in arithmetic and mathematics for children who are experiencing difficulty with numbers. Topics covered are counting, measurement, quantitative problems, mathematical notations, numerical operations, discovering numerical relationships, place value and base systems, one-to-one correspondence and geometry.

TITLE: Arithmetic board and teacher's manual NEMIC NO: 20-8-1-2/4/6/8-½-35

VENDOR: Exceptional Products Corp.,

GRADE RANGE: Preschool; primary; socially immature; mentally retarded; brain-injured; physically handicapped

STATEMENT OF PURPOSE: The Arithmetic Board is an ideal supplement in the teaching of number identification, rote counting and simple computational skills. The board places responsibility for achievement greatly upon the child. It can be used by teacher, therapist, or parent for the following activities: Transition from rote counting to rational counting; introduction of abstract symbol and its meaning; left-to-right concept; visual and tactile perception of symbol configuration; group counting; simple addition and subtraction; and games to influence motivation.

TITLE: Arithmetic enrichment ideas for grades 1-6 NEMIC NO: 20-8-15-2-(27 thru 28)

AUTHOR: Cincinnati, Ohio Public Schools

VENDOR: Ohio State Dept. of Education,

GRADE RANGE: Not for children in lower grades with learning difficulties

DESCRIPTION: Books--printed exercises to be copied for enrichment. If used, try not to have too many boxes on one line or one page. Suggest use, e.g., p. 13 (grades 1-3) after child has worked with concrete objects.

TITLE: Arithmetic handy pack NEMIC NO: 20-8-2-6-2-8

AUTHOR: Tripp, Fern.

VENDOR: Fern Tripp

STATEMENT OF PURPOSE: Teaching aids for special classes

TITLE: Arithmetic reading cards NEMIC NO: 20-8-1-12-1-26

VENDOR: Scott Foresman & Co.,

GRADE RANGE: Grades 1-3

DESCRIPTION: Set 1: Cards with pictures of objects grouped. Place for number in slit in card. Set 2: Numeration system. Good for counting and grouping in 10's and 100's.

STATEMENT OF PURPOSE: Addition and subtraction facts. Grouping of objects. Good variety of pictures and number combinations. Non-verbal.

TITLE: Beginners number poster cards NEMIC NO: 20-8-1-12-1-74

VENDOR: Milton Bradley Co.,

GRADE RANGE: Kindergarten to fourth grade

DESCRIPTION: 11-1/4" x 14" cardboard cards, each with picture representation of a number, the numerical symbol and the word for that quantity.

STATEMENT OF PURPOSE: Match number of objects to numbers; actual drawings. Semi-abstract, money combinations. Use as posters or for instruction. Child covers side of card indicating amount of money to get number of coins needed.

TITLE: Count-a-ladder NEMIC NO: 20-8-38

VENDOR: Edukaid

GRADE RANGE: Grades 1-4

DESCRIPTION: Addition: horizontal pegs in vertical rod create number ladder for counting in a vertical direction. Workbook accompanies ladder.

STATEMENT OF PURPOSE: To teach addition and subtraction by motor activity. No reading or writing numerals is involved.

TITLE: Cross number puzzles NEMIC NO: 20-8-2-12-4-41

VENDOR: Science Research Associates

GRADE RANGE: Grades 4-8. Probably not good for children under 10.

STATEMENT OF PURPOSE: To aid child in translating from verbal situation to mathematical situation, requiring mathematical operations which lead to an answer. Self-correcting since puzzles in student books are filled by numbers.

TITLE: DLM abacus NEMIC NO: 20-8-2-12-½-29

VENDOR: Developmental Learning Materials

GRADE RANGE: Any grade

DESCRIPTION: Bead abacus, 10 rows of 10 beads--flat

STATEMENT OF PURPOSE: For teaching place value. Can be used for adding or subtracting to show "borrowing" or "carrying".

TITLE: Equivalent fractions matching cards NEMIC NO: 20-8-2-12-3-30

AUTHOR: Radnar, P. B.

VENDOR: Philograph Publications Ltd.

GRADE RANGE: 5-9 (students who can visualize)

DESCRIPTION: Three boxes of small plastic-covered, washable cards, each printed with a colored geometric figure. The figures are divided into a varying number of parts. The child must match a circle that is in quarters to a square or rectangle in quarters, etc. Difficulty is increased when outline instead of solid figures is used.

STATEMENT OF PURPOSE: To recognize parts of circle. Must follow concrete work with parts of fraction. Only to test parts--not for teaching. No lines separating parts of fraction, e.g., 2/3 is not shown as 1/3 + 1/3.

TITLE: Flash cards--subtraction, addition, multiplication, division NEMIC NO: 20-8-1-12-2-21

VENDOR: Milton Bradley Company

GRADE RANGE: Grades 1-6 (or any age review of number facts to 10)

DESCRIPTION: One side has number fact and answer. Opposite side has same number fact without answer.

STATEMENT OF PURPOSE: Good for self-instruction or for students working in pairs.

TITLE: Flip and build NEMIC NO: 20-3-3-5-2-10

AUTHOR: Cheves, Ruth.

VENDOR: Teaching Resources, Inc.

DESCRIPTION: Nine sets of flip cards teaching numbers from 11-99 and the concept of zero. 2" numerals are printed on a white card with black border. To the right of each tens place, value cards are attached by a spiral, the numbers from 0-9, which can be flipped back and forth. Included are:

Small Form Puzzles
Large " "
Association Cards
Geometric Shapes
See & Say Puzzle Cards
Show You Know Then Go
Flip & Build
Ordinal Placement Board
Configuration Cards
Concept Clocks in Color
Fruit & Animal Puzzles

STATEMENT OF PURPOSE: Practice in reading and writing 2-digit numbers. Should follow grouping of concrete objects to show groups of tens and ones.

TITLE: Fraction inlay board, squares NEMIC NO: 20-8-1-12-½-43

VENDOR: Judy Company

GRADE RANGE: Grades 5-8

DESCRIPTION: Different colored fractional parts insert into inlay fraction board of square units.

TITLE: Fraction inlay board, squares NEMIC NO: 20-8-1-12-~~2~~-43

STATEMENT OF PURPOSE: Good opportunity for teaching fractions out of context of circular pie. Since pieces are movable, child can see, e.g., 3/6 = 2/4 = 1/2. Good for tactile awareness and discrimination of shape and size.

TITLE: Geometric forms NEMIC NO: 20-3-4-12-2-20

VENDOR: Judy Company

GRADE RANGE: Grades 4-8

DESCRIPTION: Inlay board, geometric forms, names of forms.

STATEMENT OF PURPOSE: Identify forms tactilely as well as visually. Types of quadrilaterals, polygons, triangles.

TITLE: Geometric models construction kit NEMIC NO: 20-8-2-12-2-36

VENDOR: Milton Bradley Company

GRADE RANGE: Grades 5-9

DESCRIPTION: Consists of straws with flexible joiners which can be made into plane and space figures. A manual is provided which presents each type of geometric shape and suggests points that can be discussed in class.

STATEMENT OF PURPOSE: To permit making of physical models of plane and space figures. Non-metric. Child requires dexterity of fingers--but can work with teacher and then learn a great deal about figure (no. vertices, sides, etc.). Can measure--find perimeter, etc.

TITLE: Mathematics learning laboratory 107: time learning NEMIC NO: 20-8-2-12-2-18

VENDOR: Creative Playthings

GRADE RANGE: Grades 1-6

DESCRIPTION: Materials for teaching time concepts. Available are student clocks, clock stencils, interchangeable clock faces, a variety of teacher materials for demonstration, teacher's manual and independent worksheets in each of the areas covered. Outlines several lessons and activities that can be implemented. Two hands move simultaneously through 12 hours--2 gears mesh.

TITLE: Mathematics learning laboratory 107: time learning NEMIC NO: 20-8-2-12-2-18

STATEMENT OF PURPOSE: To teach students to tell time with either Hindu-Arabic numerals, 1-12 or 12-24, or Roman numerals.

TITLE: Mathematics test set NEMIC NO: 20-8-1-2-12-36

VENDOR: Creative Playthings

GRADE RANGE: Grades 1-4

DESCRIPTION: Wooden puzzle pieces, half of which contain varying numbers of dots, the other half of which are printed with varying numbers. The child must match a piece with dots on it to one with the numeral which represents the number of dots on the other. Self-correcting since there is only one possible combination for each of the pieces.

NOTE: Make sure child does not concentrate on pattern of dots as compared to number, e.g., 4 = ⁘ but could be ⁙.

TITLE: Montessori counting box & spindles NEMIC NO: 20-8-1-12-1-16

VENDOR: Educational Teaching Aids Division, A. Daigger & Co.

GRADE RANGE: Grades 1-4

DESCRIPTION: Wooden box--compartments numbered 0-9. 6" spindles to put into box.

STATEMENT OF PURPOSE: To match set of objects to arithmetic number. Assists the learning of numerals and aids counting.

Refer to textbook bibliography for Montessori's writings which can be consulted for suggested activities and instructions for teacher-made aids.

TITLE: More or less? NEMIC NO: 20-8-1-12-2-20

AUTHOR: Siegel, E.

VENDOR: Educational Activities, Inc.

GRADE RANGE: Recommended for brain injured children; mentally retarded; normal grade 1. Class activity with recora.

TITLE: More or less? NEMIC NO: 20-8-1-12-2-20

DESCRIPTION: A program to teach addition and subtraction of one to and from the numbers from 1-10. Twenty three-faced cards (birds in cage matched with number) proceed from concrete representation of number (pictures of objects) to abstract representation (numerals) in teaching adding or subtracting one. A record introduces situations to the child which require him to participate by adding or subtracting one. The record can be used in a test-retest capacity and to reinforce concepts taught by the cards.

STATEMENT OF PURPOSE: Visual and imaginative. Sequential, proceeding from concrete to abstract. Auditory-visual. Use after child can count 1-10; knows sequence of numbers backward and forward. (1st set 1-5, 2nd set 5-10).

TITLE: Multiplication board NEMIC NO: 20-8-1-12-2-17

AUTHOR: Montessori

VENDOR: Teaching Aids Division of A. Daigger & Co.

GRADE RANGE: Preschool to kindergarten

DESCRIPTION: Square board numbered across the top from 1 to 10. 100 pockets arranged in pattern of 10 rows and 10 columns. Pocket holds colored disc. Slot holds card bearing numeral. Container of beads.

TITLE: Neptune liquid measures NEMIC NO: 20-8-1-12-½-40

AUTHOR: Montessori

VENDOR: A. Daigger & Co.

GRADE RANGE: Any age

DESCRIPTION: Pitchers to measure gill, ½ pint, pint, quart.

TITLE: Nifty circle meter NEMIC NO: 20-8-2-12-3-33

VENDOR: Nifty Instructional Materials

GRADE RANGE: Grades 7-8

DESCRIPTION: Five varied-diameter cardboard circles and set of student worksheets.

TITLE: Nuffield mathematics project NEMIC NO: 20-8-1-12-2-86

AUTHOR: Nuffield Foundation

VENDOR: John Wiley and Sons

GRADE RANGE: 5-13 year-old children

STATEMENT OF PURPOSE: The aim of the Nuffield Mathematics Project is to "devise a contemporary approach for children from 5 to 13." The stress is on how to learn and not on what to teach. Throughout the work the central notion is that "children must be set free to make their own discoveries and think for themselves, and so achieve understanding, instead of learning mysterious drills." To achieve an understanding, children need to handle things, i.e., beads, scales, etc., instead of going straight to abstractions. Guides are provided in which development of work from them is more important than the guides themselves.

TITLE: Numberite NEMIC NO: 20-8-1-12-2-54

VENDOR: Judy Company

GRADE RANGE: Grades 1-4

DESCRIPTION: Each number from 1-10 is printed on heavy plywood (2" x 6"). Above each number are holes corresponding in number to the printed symbol. Bright red pegs are provided which must be put into the holes. Two sides of the wooden pieces are notched so that the numbers can be placed in order with all notches matching. The number one can only fit next to the number two and so on.

STATEMENT OF PURPOSE: Good for counting, matching and developing concepts of inclusion, such as "2 is between 1 and 3."

NOTE: Watch out that in matching numerals and number of pegs the child is not confused by the patterns of holes., e.g., 5 can be matched against ⁘ and ⁙ as well as ⁛.

TITLE: Peg numbers NEMIC NO: 20-8-1-12-4-51N

VENDOR: Creative Playthings

GRADE RANGE: Grades 1-3

DESCRIPTION: Wooden numbers, outlined; shapes can be felt. Number of holes in each figure same as number. Can match numeral with set of same number of objects.

TITLE: Peg numbers NEMIC NO: 20-8-1-12-½-51N

STATEMENT OF PURPOSE: Good way to combine tactile and visual modalities and meaning of number name.

TITLE: SRA--inquisitive games exploring number and space NEMIC NO: 20-8-1-12-3-55

VENDOR: Science Research Associates, Inc.

DESCRIPTION: Sequence set of math-oriented games for young children. Kit contains 14 games. Games package = 28 game envelopes (2 for each game); each envelope contains material for 2 children. Four children can play each game.
Kit: 3 groups of plastic sticks--graduated lengths
plastic Road Game
six animal dice, cup, movers, spinner

STATEMENT OF PURPOSE: To develop abilities: observation, classification, comparison, decision-making, problem solving, and organization of information. Aids discovery of relationships necessary for understanding mathematical concepts.

TITLE: SRA--ten-frame NEMIC NO: 20-8-2-12-1-34

VENDOR: Science Research Associates, Inc.

DESCRIPTION: White plastic frames, 1 through 10 unmarked. Can reproduce number facts, e.g., 8+2 = 9+1.

STATEMENT OF PURPOSE: Can make Cuisenaire-type ladder but there are no color differences as in Cuisenaire rods. Good for grouping for sums.

TITLE: Time telling--programmed textbook NEMIC NO: 20-8-1-12-2-65

AUTHOR: TMI-Grolier

VENDOR: Teaching Materials Corp.

GRADE RANGE: Self-tutoring (second grade level)

STATEMENT OF PURPOSE: A self-tutoring course, the Time Telling--Programmed Textbook directs the student through a large number of small, easy-to-take steps. Learning principles of recognized soundness compose the program, allowing the student the advantage of a private tutor, and the

TITLE: Time telling--programmed textbook NEMIC NO: 20-8-1-12-2-65

Statement of Purpose (Cont'd)

instructor freedom from routine activities.
The program differs from conventional learning programs in that the student goes through a carefully graded sequence of material, actively participates in the learning process, obtains immediate knowledge of results as to the correctness of his answers, and, lastly, provides the student with a method of processing at a rate of his own choosing.

TITLE: Vistrum fractions--scholar's compact NEMIC NO: 20-8-1-12-2-58

VENDOR: Philograph Publications Ltd.

GRADE RANGE: Grades 5-9

STATEMENT OF PURPOSE: Visualize - feel - superimpose fractional parts (non-circular) on larger parts. Good combination of visual and tactile modalities. Flipping on ring permits change in relationships.

TITLE: Walk-on number line NEMIC NO: 20-3-3-6-2-1

VENDOR: Instructo Corporation

GRADE RANGE: Grades 1-4

DESCRIPTION: Plastic roll-out "carpet" with number line painted on.

STATEMENT OF PURPOSE: Excellent for counting. Walking along line for addition and subtraction, involving whole body, aids in left-right, front-back orientation problems. Can be used to match correct number of objects in a set with the proper numeral. Can use to group in tens or for addition or subtraction.

VENDORS

Allied Educational Council, P.O. Box 78, Galien, Michigan 49113

Allyn & Bacon, Inc., 470 Atlantic Avenue, Boston, Massachusetts 02210

American Guidance Service, Inc., Publishers' Building, Circle Pines, Minnesota 55014

Ann Arbor Press, 610 South Forest Street, Ann Arbor, Michigan 48104

Appleton-Century-Crofts, Division of Meredith Publishing Company, 440 Park Avenue South, New York, New York 10016

C.L. Barnhart, Inc., P.O. Box 359, Bronxville, New York 10708

Behavioral Research Laboratories, Box 477, Palo Alto, California 94301

Bell and Howell Company, 7100 McCormick Road, Chicago, Illinois 60645

Book-Lab, 14449 37th Street, Brooklyn, New York 11218

Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minnesota 55415

Charles E. Merrill Publishing Company, A Bell and Howell Company, 1300 Alum Creek Drive, Columbus, Ohio 43216

Chilton Book Company, 401 Walnut Street, Philadelphia, Pennsylvania 19106

Constructive Playthings, 1040 East 85th Street, Kansas City, Missouri 64131

A. Daigger and Company, 159 West Kinzie Street, Chicago, Illinois 60610

Developmental Learning Materials, 3505 North Ashland Avenue, Chicago, Illinois 60657

Educational Activities, Inc., P.O. Box 392, Freeport, New York 11520

Educators' Publishing Service, 75 Maulton Street, Cambridge, Massachusetts 02138

Expression Company, Box 11, Magnolia, Massachusetts 01930

Eye-Gate House, Inc., 146-01 Archer Avenue, Jamaica, New York 11435

Follett Educational Corporation, Parkinson Division, 1010 West Washington Boulevard, Chicago, Illinois 60607

Harcourt, Brace & World Inc., 757 Third Avenue, New York, New York 10017

D.C. Heath Company, 205 Columbus Avenue, Boston, Massachusetts 02116

Holt, Rinehart and Winston, 383 Madison Avenue, New York, New York 10017

Hoover Brothers, Inc., 1305 North 14th Street, Temple, Texas 16501

Ideal School Supply Company, 8316 South Birkhoff, Chicago, Illinois 60620

Initial Teaching Alphabet Publications, Inc. Division of Pitman Publishing Corporation, 20 East 46th Street, New York, New York 10017

Instructo Products Company, 1635 North 55th Street, Philadelphia, Pennsylvania 19131

Interstate Special Education Series, Printers and Publishers, Inc., 19-27 North Jackson Street, Danville, Illinois 61832

Jeri Productions, Suite #209, 1213 North Highland Avenue, Hollywood, California 90038

John Tracy Clinic, 806 West Adams Boulevard, Los Angeles, California 90007

J.P. Lippincott, East Washington Square, Philadelphia, Pennsylvania 19105

Judy Company, General Learning Corporation, Early Training Division, 310 North Second Street, Minneapolis, Minnesota 55401

Keystone View Company, Meadville, Pennsylvania 16335

Lyons & Cannahan, Affiliate of Meredith Publishing Company, 407 East 25th Street, Chicago, Illinois 60616

Macmillan Company, 866 Third Avenue, New York, New York 10022

Mafex Associates, Inc., Box 519, Johnstown, Pennsylvania 15907

McGraw-Hill Book Company, Webster Division, 530 West 42nd Street, New York, New York 10036

Millikin Publishing Company, 611 Olive Street, St. Louis, Missouri 63101

Noble and Noble, Inc., 750 Third Avenue, New York, New York 10017

Office of Education, Department of Health, Education and Welfare, Washington, D.C. 20202

Open Court Publishing Company, 1307 7th Street, LaSalle, Illinois 61301

Phonovisual Products, Inc., Box 5625, Washington, D.C. 20016

Radiant Educational Corporation, 8220 North Austin Avenue, Morton Grove, Illinois 60053

Science Research Associated, 259 East Erie, Chicago, Illinois 60611

Scott, Foresman and Company, 1900 East Lake Avenue, Glenview, Illinois 60025

Silver Burdett Company, Division of General Learning Corp., Morristown, New Jersey 07960

Singer/Random House, 249 West Erie Boulevard, Syracuse, New York 13202

Special Education Instructional Materials Center, Department of Exceptional Children, School of Education, University of Southern California, Los Angeles, California

Speech and Language Materials, Inc., P.O. Box 721, Tulsa, Oklahoma 74101

R.H. Stone Products/Constructive Playthings, 18279 Livernois, Detroit, Michigan 48221

Teaching Resources, New York Times Education Service, 334 Boylston Street, Boston, Massachusetts 02116

Webster Division, McGraw-Hill Book Company, 530 West 42nd Street, New York, New York 10036

Whiteside, Inc. and William Morrow & Company, 425 Park Avenue South, New York, New York 10016

Xerox Corporation, Education Division, 600 Madison Avenue, New York, New York 10022

Zaner-Bloser Company, Columbus, Ohio 43208